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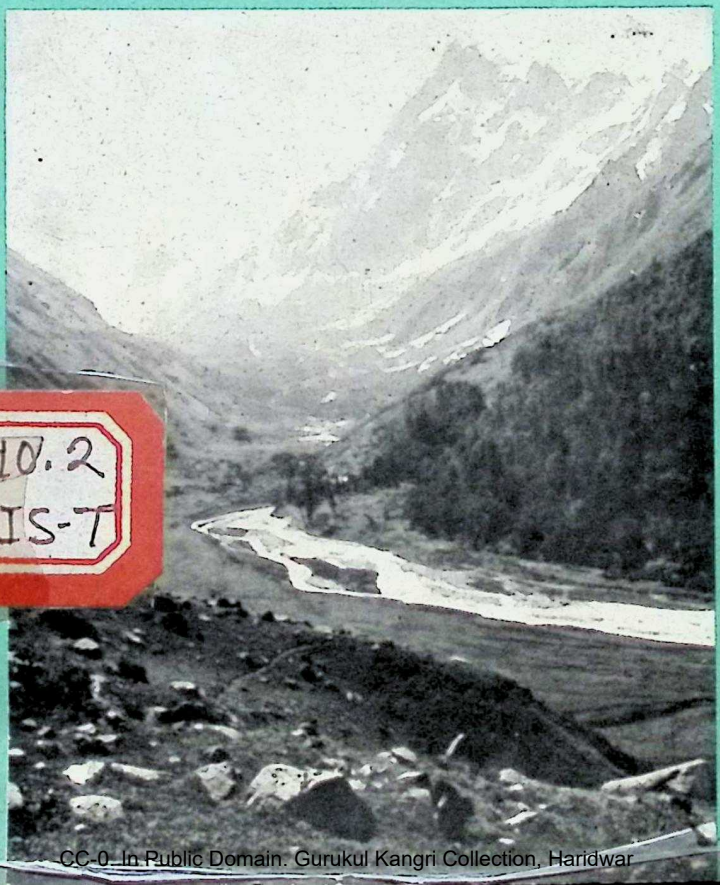
TOURISM IN GARHWAL HIMALAYA

With Special Reference to Mountaineering & Trekking in Uttarkashi and Chamoli Districts



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Though much has been said and talked about Himalayan Tourism in the governmental as well as academic circles through public announcements and tourism conferences, and many mountaineering expeditions have been reported in mountaineering journals and books, but not a single attempt has been made for the systematic study of economics of Himalayan Tourism and its impact on the ecology (the most prospective industry of tomorrow, which is haphazardly growing in the Indian Himalayas).

This book is the first ever attempt in this direction. The book highlights the Himalayan Tourism resource potentials of Uttarkashi and Chamoli districts of Garhwal Himalaya, which is widely known as "The Above of Gods".

Existing infrastructure of this industry in this region has been studied in detail. Economics of mountaineering and trekking has been dealt in a separate chapter, with detailed case study of Gangotri region, which is pilgrim's paradise and adventure tourists' retreat. Problems of this industry are put forth. Prospective dangers, to man and nature of haphazard tourism development have been exposed and some positive recommendations have been made for the sustainable development of man and nature in the Himalayas.

It is hoped that the book will prove useful to the tourists, Himalayan tourism researchers, planners, and policy-makers.

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पुस्तकालय

गुरुकुल कांगड़ी विश्वविद्यालय, हरिद्वार

वर्ग संख्या ..... आगत संख्या ...116675E

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Tourism in Garhwal Himalaya

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TOURISM IN GARHWAL HIMALAYA

With Special Reference to Mountaineering and Trekking in Uttarkashi and Chamoli Districts

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पुस्तकालय
पुस्तकालय
गुरुकुल कांगड़ी विश्वविद्यालय

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Dedicated to the Memories of

My Parents

Late Mrs. & Major Hoshiyar Singh Bisht

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Preface

A dream of my childhood came true when I got an opportunity of visiting the snout of Gangotri glacier and deep snows of Himalayan heights in 1978. This was my first mountaineering course from Nehru Institute of Mountaineering (NIM), Uttarkashi and the first exposure to Himalayan wilderness and solitude. At that time it was rare to find any trekker on the track. Today it is one of the busiest tracks and mountain climbing areas of India. This first adventure experience attracted and motivated me for many mountain climbing challenges in Himalaya. Later in 1981 I accepted a challenge to climb Nanda Devi peak along with other eleven members. With the success of this expedition my ambition arose to participate in Everest climb in Solu-Khumbu district in Nepal. Although I was unable to climb the peak but region's economy and depleting ecology made a deep impression on my mind.

Study of adventure tourism was more or less untouched by earlier scholars. Therefore, I desperately felt like going once again for Himalayan challenge for academic purpose. This study is the outcome of my extensive field surveys and interviews that I conducted in Uttarkashi and Chamoli districts of Garhwal. Due to non-availability of latest data, study is based on 1981 census records.

I very much owe more than ceremonious words of thanks to Mr. Rattan Singh Chauhan, Senior Instructor, NIM, Uttarkashi, without whose cooperation, encouragement and constructive suggestions at various stages, it would not have been possible to complete the work. I express my sincere thanks to Prof. R.C. Joshi, Head of the Department of Electronic & Computer Engineering, University of Roorkee for guiding me in the later stages of work. I also express my sincere thanks to Dr. M.C. Sanwal, Head of the

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1
Introduction

1.1 Historical Review of Tourism

Since time immemorial man had a thrust for wandering. The ancient Greeks had a remarkable wander lust. The Roman empire had the history of pilgrimages. The great navigators of the 15th and 16th centuries expanded the horizon of the world, as compulsive voyagers and adventurers, they were rich people and had the monopoly of travel in Europe.

Prior to the middle of the 18th century, nature and its beautiful but rugged objects had little appeal and mountains in particular were disliked and avoided. Until 1763 Switzerland was avoided. Climbing glaciers and snow peaks had not been introduced. Later on, few daring innovators had taken an interest in mountain climbing and tried to explore the high mountains of Alps. Gradually Chamonix became the target of adventures. This unique change of attitude and taste transformed Switzerland into the first play ground of Europe. Goethe declared, "Switzerland at first made so deep impression on me that I was bewildered and restless."[1] The concept towards mountains changed and people began to feel an irresistible urge to travel to the mountains.

In the beginning of the 10th century rich people started visiting Switzerland for acquiring health and knowledge and gradually that attitude changed and they felt an inner urge to visit and enjoy nature's bounty. In 1811, with the ascent of the Jungfrau, sport of alpinism began and grew rapidly. Alpine societies were founded in Austria, Germany and Switzerland. Mountain chalets and footpaths

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encouraged Alpine adventures. The first mountain hut was constructed in 1865 in Kaprun, Salzburg as per the recorded evidence. The end of the 19th century and the early 20th century were the periods of strong growth in mountain tourism. Alps became the centre for summer as well as winter tourism.

Walking on snow and crossing the glaciers was not unknown to Indians. The 3500 kms long majestic Himalaya on the northern border has always held a strong fascination for men. The Himalaya offers challenges, inspiration, sublimity, relaxation and satisfaction. The Vedas (written some 5000 years ago), the ancient literary masterpieces are full of praises to Himalaya, which reverentially was and is believed to have proximity to the Gods. The Hindu religious books—Purans, Bhagvada Gita and Ramayana—all are full of praises to Himalaya, the "Abode of Gods", where Gods lived and mortals meditated for salvation. According to Hindu mythology the liquid essence of life, Ganga, descended from heaven to earth in Himalaya. Therefore, our holy men took the journey to Himalaya, hence it had become the place of pilgrimage for the devout among Hindus, Sikhs and Buddhists since centuries.

Since the dawn of the civilisation Indians have been attracted by the hazardous mountains and established places of pilgrimage there, like Badrinath, Kedarnath, Gangotri, Yamunotri, Hemkund-Lokpal, Vaishnu Devi and Amarnath etc. Perhaps most notable among the pilgrims was Adi-Guru Shankaracharya, who about a thousand years ago came from the south to revive Hinduism and established the shrine of Badrinath.

Economic necessities drove the hillmen to travel in the mountains as a way of life as hunters, traders, shepherds, and porters. They had to cross high passes (5538-5846 m). In this process they invented indigenous equipments, techniques and clothing for such adverse conditions and difficult climbs. Among local explorers in the Survey of India (1865-85) were Pandit brothers—Nain Singh, Kishan Singh and Ata Mohammed. They were sent by the British to the cold desert of Tibet and adjacent countries for survey.

Adventure activities in the Himalaya were first tried by the Europeans, mainly Britishers. For this, the region was explored by Trail, Tillman, Huge Ruttledge, Shipton and Smythe. This started with the crossing of 16,500 ft pass by Trail in 1830, which is

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known as the "Trail pass". Later on it was crossed by Adolf Schlagintweit in 1855, by Edmund Smythe in 1861, by T.S. Kennedy in 1883, and later by others. But the awakening of interest in mountaineering as a sport in India came with the extensive trek of W.W. Graham in 1883 with two Swiss guides Emill Boss, Ulrich Kauffmann who tried a route up the Rishi gorge to the western base of Nanda Devi. Later Graham attempted Dunagiri (7134 m) and made it. In 1855 Schlagintweit brothers attempted Kamet. Their approach was from Tibet.

In the 19th century three areas of Himalaya namely the Karakoram, Garhwal-Kumaon and Sikkim attracted western mountaineers and explorers very much. In 1905 came the wizard of Nanda Devi story, Dr. T.G. Longstaff with Alexi and Henri, two Alpine guides. They reached a col (5875 m), which is known as Longstaff col. Again in 1907 Longstaff came with G.C. Bruce, A.L. Mumm and three Alpine guides and reached the Bagini pass (6060 m). Later Longstaff made the ascent of Trisul (7188 m) in 1907 with a local inhabitant Karbir Singh from the north, the highest point reached till then. C.F. Meade, another mountaineer attempted the Kamet thrice (in 1910, 1912 and 1913) but couldn't climb higher than a pass (7203 m), which was later named as Meade's col.

Then came a flood of explorers and mountaineers towards Nanda Devi. In 1926 Hugh Ruttledge came with colonel D.C. Wilson and Howard Somervell, but couldn't succeed in penetrating the sanctuary. In 1931, with the ascent of Kamet (7755 m) by a British team led by Smythe, mountaineers started concentrating on Nanda Devi. This beautiful ice-sheathed abode of Goddess Nanda started taking test of endurance and ability of mountaineers. But, till 1933, its base surrounded by the double-walled amphitheater of peaks remained impenetrable.

Finally in 1934 came the gate crashers, Eric Shipton and Bill Tillman, the first mortals to wander at will in the sanctuary of Goddess Nanda. Ultimately on 24th Aug, 1936 from the bivouac at 7385 m, Tillman and Odell got success in reaching the summit of Nanda Devi (7817 m), after a nine-hour climb.

The Indians used to go as helpers, porters and agents, but they achieved only credibility. Smythe wrote much about Kesar Singh, a local porter, "there are more of his type in the village of northern

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Garhwal, and given the same opportunities as the Darjeeling men, they would, I am convinced, develop into even finer mountaineers, finer at all events in that they would not be cursed on mountain with unnerving superstitions.''[2] In between 1935-36, larger sections of Kumaon and Garhwal were completely surveyed by G.H. Osmaston assisted by R.A. Gardiner and R.G. Edge of Survey of India. In 1938 six Germans climbed Bhagirathi II, Chandra Parbat, Swachanda Parbat and Sri Kailash. The decade of fifties witnessed the golden era of mountaineering in Himalaya. In 1950 the French climbed the first 8000 m Annapurna I. The British got success in 1953. In the same year Nanga Parbat was climbed by the Germans, Cho-oyu by Austrians, K2 by Italians, Kanchanjunga and Makalu were climbed in 1955, Gasherbrum I & IV were climbed in 1958.

The success of Edmund Hillary and Tenzing on Everest changed the scenario of Indian mountaineering. Indian mountaineering Foundation came into existence in 1961. The beginning of Indian mountaineering was on its threshold. The credit of creating interest of mountaineering among Indians goes to the Doon School, Dehradun. Eminent mountaineers like J.A.K. Martyn, J.T.M. Gibson and R.L. Holdsworth were teachers there. In 1940, Holdsworth took an exploratory trip of outer Himalaya with ten boys of Doon School. Nandu Jayal was one of them. The boys got a good exposure to Himalaya. In 1942 Holdsworth and Martyn took three teenagers to Badrinath, Mana village and Arwa valley. In 1946 Nandu Jayal, Nandu Chengappa and others attempted Banderpunch peak. Due to bad weather they had to abandon their attempt of Banderpunch, but they climbed Hanuman (5610 m). Independence gave a new dimension to mountaineering in India.

In 1950 Gibson led a successful expedition to Banderpunch. 1951 brought laurels to Indian mountaineering with the successful expedition to Kamet, led by Gurudial Singh. The same year Nandu Jayal and Tenzing joined French Nanda Devi expedition. In 1953 Nandu Jayal led an Indian Sappers expedition to Kamet and Abi Gamin. The team missed Kamet but climbed Abi Gamin.

Real mountaineering started in India soon after the establishment of Himalayan Mountaineering Institute at Darjeeling in 1954. Nandu Jayal was the first principal and Tenzing was the first director of field training there. In 1956, Kamet expedition was organised

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successfully with the Bengal Sappers. There were successful attempts on Saser Kangri and Nanda Devi too. In 1958 Indians attempted Cho-oyu with success, but unfortunately lost Nandu Jayal on the mountain.

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From successful sponsoring committee of Cho-oyu, Indian Mountaineering Foundation (IMF) became a permanent organisation in 1961. The main objectives of IMF were to organise, support and provide a base for expeditions of mountaineering, skiing, rock-climbing, trekking at high altitudes as well as to promote, encourage, support and execute schemes for all Himalayan adventures.

In 1960 the first ladies basic mountaineering course was conducted at HMI, Darjeeling. With this an era of women mountaineering began in India. In later years many expeditions to small and big peaks were successfully undertaken. The women's expedition to Trisul in 1970 became a corner stone in the history of women mountaineering in India, when Dr. Meena Aggarwal climbed the peak with two sherpas. This was first 7000 m peak climbed by an Indian woman. In 1976 there was a joint Indo-Japanese women's expedition to Kamet and Abi Gamin. They got success on Abi Gamin. Thrity and Chander Prabha made the summit with three Sherpas. Next year there was an all-India ladies expedition to Kamet. Thrity Birdly, Chander Prabha and Bharti Banerjee got success in reaching to the top. In 1979 there was joint and mixed Indo-New Zealand expedition, in which Chander Prabha with others climbed Rataban and experienced river-rafting on return journey upto Hardwar.

In the mean time in 1981 it was decided to widen the horizons of IMF by including other kinds of adventures like—desert and jungle exploration, sea-ferrying, sailing, sky-diving, hang-gliding, canoeing, cycle and motor-cycle tours, even exploration of polar regions, in short promotion and support of all kinds of adventure.

In 1981 Indian girls with some men got a chance to go for the 'killer mountain', Nanda Devi. Chander Prabha Aitwal, Harshvanti Bisht and Rekha Sharma climbed the peak. The ultimate in mountaineering, the Everest, came in 1984 and Bachendri Pal climbed the peak. This infused the spirit of adventure among Indian women.

IMF functions as a clearing house for foreign expeditions. It registers the peaks for foreign expeditions and provides the service

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of a liaison officer to them. Today there are many full-fledged training institutes of mountaineering in India viz, the Nehru Institute of Mountaineering, Uttarkashi; Himalayan Mountaineering Institute, Darjeeling; Western Himalayan Mountaineering Institute, Manali; Jawahar Institute of Mountaineering and Winter Sports near Pahalgam; and Gujarat Rock Climbing Institute at Mount Abu.

The number of Indian as well as foreign expeditions during these years has been growing. There are more than hundred mountaineering clubs in almost all parts of India. In 1986 there were over 250 mountaineering expeditions and over 50,000 trekkers.[3]

Though much has been achieved during these years, yet there is still much more to be done. There are hundreds of virgin summits, miles and miles of unexplored forests, more and more difficult ridges and unclimbed faces of peaks already climbed. The horizon of mountain tourism, specially mountaineering and trekking is very wide, though most of the challenging peaks are already climbed. But many more thrilling challenges on the same peaks are inviting the adventurers today. New routes, new climbing styles and new techniques are to be tried. There are hundreds of new things yet to be done. The fascination to face the challenges of nature can never die because nature transforms its challenges every now and then. So Garhwal, the training ground of early mountaineers, can welcome many more mountaineers for many more new climbs, excitement, recreation, thrills and explorations. As predicted by H. Kahn, the post-industrial society of tomorrow will be largely pleasure oriented. We have to make well planned preparations, particularly in the Garhwal region right now to face the future when the problem will not be that of labour but of leisure.

For this the whole of Garhwal has to get dressed up (infrastructure building) to welcome new enthusiasts and mountain lovers for 'social tourism' and eco-tourism.

Ever since the dawn of the civilisation man had a quest for wandering, but much of it was unconscious in the beginning or it was for the fulfilment of necessities. Later on travelling for fun became the luxury of few rich people. But industrialisation, modernisation, spread of education, speedy communication system, increased disposable income, socialisation of leisure, monotonous characters of so many jobs and paid holidays changed the human

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life. This forced human beings for periodical refreshment of mind and body in wilderness areas for active participation in exotic activities. This phenomenal change in tourism has been experienced world wide. Presently, tourism has been declared as an industry and its socio-economic and environmental impacts are visualising clearly. The greatest and the most significant development in modern tourism is the demand for outdoor in mass recreation. Today climbing, mountaineering, wildlife watching, snow-skiing, hale-skiing, water-skiing, river rafting and canoeing have become popular. Most suitable for all these activities, Garhwal Himalaya, started attracting tourists of different tastes and fashions.

1.2 Garhwal: An Introduction

The Garhwal Himalaya lies between the latitudes 29°26′-31°28′ N and longitudes 77°49′-80°6′ E , with a total area of about 30,000 sq. kms. In the east, the district boundaries of Nainital, Almora and Pithoragarh separate it from Kumaon in the west, river Tons separates it from the Himachal Pradesh. Starting from the foot-hills in the south, the region extends upto snow-clad peaks, making the Indo-Tibetan boundary. Politically the region consists the districts of Uttarkashi, Chamoli, Tehri, Pauri and Dehradun. First two being border districts and altitudinally higher than others, are most suitable for mountaineering and high altitude trekking. Therefore, in this book, two border districts have been studied.

This new tourism has leaped into the Himalayan height of Uttarkashi and Chamoli districts of Garhwal with the establishment of Hill Area Development Board, U.P. in 1972. The natural beauty of the region—majestic Himalaya, snow-covered peaks, gushing rivers, hanging glaciers, wildlife and pollution-free zone started attracting tourists in the region. Gradually few restricted areas were opened in Indo-Tibetan border for adventure activities. Holiday with pay, for adventure activities and subsidised mountaineering and snow-skiing courses gave a chance to the countrymen to experience the thrills of adventure in the Himalaya. Char Dhams—Badrinath, Kedarnath, Gangotri and Yamunotri were the life-long ambition of every religious Hindu since the dawn of Hindu civilisation. Therefore in the past, tourism trade had a tendency to be

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located in the area of religious or historical importance. But, today an amalgamation of adventure tourism and pilgrimage is taking place in the region. Uttarkashi and Chamoli districts of Garhwal, with deficient mineral resources, fragile eco-system and difficult accessibility started welcoming the domestic and foreign tourists for economic gains. This has been realized that the age-old pilgrimage and recently introduced mountain tourism can put the economy of the region in good shape.

This religio-adventure tourism industry is generating economic activities, socio-cultural exchanges, technological and environmental awareness among the people of the region. But, simultaneously the negative impacts of this industry too are visualizing in the region in the shape of deforestation, garbage dumps, soil erosion, landslides and cultural pollution.

According to J.D. Ives,[4] about ten percent of the population is directly dependent on mountain resources whereas more than forty percent is indirectly dependent on it for water, hydro electricity, timber, mineral resources, recreation and flood control. A proper resource management will give new directions to the economy of this region.

The objective of this work is to study the economics of Himalayan tourism (mountaineering and trekking) and its impacts on the region. For this study the objectives have been divided into the following:

1. To explore the horizon of tourist attractions of Uttarkashi and Chamoli districts of Garhwal.
2. Dissect the existing infrastructure of tourism and pilgrimage of the region.
3. To study the economy generated by mountaineering and trekking.
4. Analyse the impacts of Himalayan tourism.
5. To study the problems of Himalayan tourism for friendly and sustainable development of the region.

Physical Setting

The study area comprises two border districts of Garhwal mandal—Uttarkashi and Chamoli, geographically, northern Garhwal. It lies between 29° 31' N to 36° 6' 6'' N and 77° 56' E to

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80° 6' E, covering an area of 17,141 sq kms, including Char Dhams of Badri, Kedar, Gangotri and Yamunotri. Badri-Kedar is the cherished goal of the Hindus, since time immemorial. To a Hindu this area is as important as Mecca to the Muslims, or Palestine to a Christian. In the north it is bounded by Tibet and Tehri, and Pauri in the south, on the east by Almora and Pithoragarh and on the west by Dehradun and Himachal Pradesh. Figure 1 depicts the study region.

The area covers the catchment of the Ganga, Yamuna and Tons, their drainage pattern criss-crossing the region. Garhwal Himalaya is a distinct cultural unit, veritable store house of varied resources—hydrological, botanical, zoological, cultural and human. The varied morphology and great altitude variation differentiate one piece of land from another, climate as well as vegetation wise. The northern most part is rugged and snow-clad, but awe inspiring. The total reported area for land use is 17,06,602 hectares and real cultivable area is 74,319 hectares, the rest is either barren or under the cover of trees, bushes and pastures.[5]

In the Bhagvada Gita, Lord Krishna describes himself as "Sthavarna" that is, "among the mountains I am Himalaya, nothing else.'' Geographers say that in prehistoric times what was a sea bed named ''Sea of Tethys," suddenly came out on the surface as the longest and highest mountain range of the surface.

Though the configuration of the Garhwal is being studied into three divisions from north to south longitudinally three parallel zones—

1. The Himadri (The greater or higher Himalaya)
2. The Himachal (The lesser or central Himalaya)
3. The Siwalik (The outer or sub Himalaya)

But as the study is concerned only with Uttarkashi and Chamoli districts, hence, instead of studying all the three zones, only two the Himadri and the Himachal will be studied here.

The Himadri

The topography of the greater Himalaya is highly difficult. With precipitous slopes, snow-covered peaks, serrated crests of high ridges, glaciers, changing valley, bubbling waters coming

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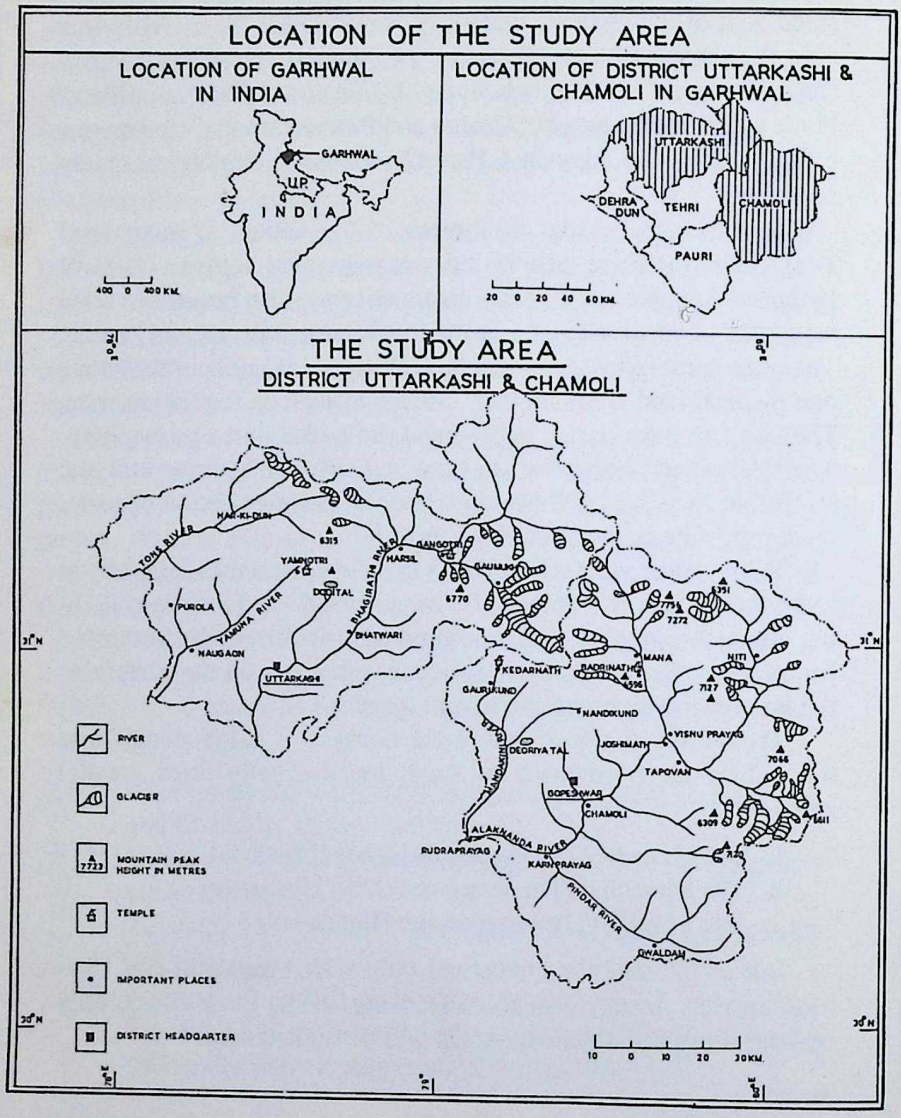

Fig. 1. Location of the study area.

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from melting ice, torrential rapids and tarns present unforgettable scenery. The mean relief average varies between 4800-6000 m.

The Himachal

The average relief of ridges in this zone varies from 1500 to 2700 m and valley bottoms from 500-1200 m. This mountain tract is comparatively easy and more cultivable. Most of the villages and towns fall in this region. Table 1 show that out of the total area of 17,06,602 hectares, the net cultivable area is only 74,319 hectares. But a larger part of the land, that is 12,37,135 hectares is under forest cover, the rest comes under pastures, grazing land and other types.

TABLE 1.1

Land utilisation (1984-85)

S. No.	District	Total reporting area for land utilisation (hectare)	Forest (hectare)	Net culti-vable area (hectare)	Others (hectare)
1.	Chamoli	9,05,758	5,26,867	42,685	3,36,206
2.	Uttarkashi	8,00,844	7,10,268	31,634	58,942
	Total	12,06,602	12,37,135	74,319	3,95,148

Source: Hill Area Development Progress 1986-87 and Programme 1987-88, Hill Development Department, p. 118.

Detailed description of both the districts is given in Chapter 2. But it will not be out of point to state here that physical elements, which have direct bearing on the population are altitude, water course, climate and vegetation. The impact of these factors is considerable on human body and mind. In fact, it is the single most important factor, which influences the composition, distribution and social structure of resident population and tourist arrivals.

Age-old history is recorded in legends and mythological folklore. The land is closely associated with the legendry heros and heroines of Ramayana and Mahabharata. Recorded history says that Katyury dynasty ruled Garhwal from 850-1050 AD. Due to their carelessness, the kingdom broke up into small states. During

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TABLE 1.2

Demographic structure (according to 1981 census)

S. No.	District	Population	Urban	Rural	Male	Female	Sex ratio female/ thousand male	Density of population			Area in sq km			Literacy		
								Rural	Urban	Total	Rural	Urban	Total	Male	Female	Total
1.	Chamoli	364346	29174	335172	178343	186003	1026	37	389	40	9050.0	75	9125	57.34	10.63	37.68
2.	Uttarkashi	190948	13272	177676	101533	89415	881	22	758	758	7998.5	17.5	8016	45.69	9.37	28.67

Source: Hill Area Development, Progress 1986-87 and Programme 1987-88, pp. 115, 117.

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15th century king Ajai Pal began the unification of fifty two garhs (fortresses) into one kingdom. He shifted his capital from Chandpurgarhi to Dewalgarhi (present day Joshimath). The capital got shifted many times with different kings, but finally it was shifted to Srinagar. Many aggressions mauled Garhwal greatly, but the Maratha invasion of 1801 wrought much destruction.

In 1803, Garhwal was invaded by Gorkhas. They ruled Garhwal for twelve years. They not only ruled, but ruined Garhwal in this period. Later with the help of British, Gorkhas were defeated on 15th May 1815. But the king of Garhwal was forced to cede Pauri (today's Pauri + Chamoli districts) to the British as payment for the help they rendered. The capital was shifted to Tehri.

The first British Commissioner was Mr. George William Trail (1815-35). Other names in the administration of Uttarakhand are Battan and Sir Henry Ramsay. Long after Independence of India in 1949, the merger of Tehri raj made way for the reconstitution of the five hill districts of U.P. into the present Garhwal division.

Demographic Pattern

The total population of Uttarkashi and Chamoli districts is 5,55,294 with 2,79,876 males and 2,75,418 females. Both the districts have higher rural population in comparison to urban. Chamoli has 3,35,172 and Uttarkashi has 1,77,676 people living in rural areas, whereas the number of people living in urban areas of Chamoli and Uttarkashi is 29,174 and 13,272 respectively. Sex ratio in Chamoli is 1026 females per thousand males, in Uttarkashi 881 females per thousand males. Literacy percentage in Chamoli and Uttarkashi is 37.68 and 28.67 respectively which is very low in comparison to national rate. The main occupation of the people is agriculture. Nearly 81.26 percent population of Chamoli district and 79.23 of Uttarkashi is either agriculturist or agriculture labour. The percentage for small household industries is respectively 1.95 and 1.08 percent. Rest are engaged in other occupations.[6] The demographic structure is shown in Table 1.2.

1.3 Literature on the Area

Garhwal, which has got Char Dhams—Badri, Kedar, Gangotri and Yamunotri and the sacred rivers the Ganga and the Yamuna in

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its lap, is treated as the holiest among the holy places of Hindu pilgrimage. It is widely believed that this abode of gods and goddesses sanctified many saints who meditated here. Therefore there are plenty of mythological stories about the region from early times.

Later in the 19th century many foreign religious missionaries, explorers and mountaineers started pouring into the region. They prepared their journey accounts with great care incorporating therein geomorphological, historical, cultural, religious and economic descriptions. In the 20th century researchers found the region interesting for their studies. Development of mountaineering as sport paved the way to informative mountaineering journals. How the Alpine tourism came into existence and its development was also a matter of great curiosity for researchers. Therefore literature on Alpine tourism development is also important.

Altogether the research references can be divided into the following heads—

1. Mythological accounts
2. Mountaineering and exploration details and gazetteers.
3. Sociological and historical descriptions and regional researches.
4. Mountaineering journals, expedition accounts, Alpine tourism etc.

Hindu scriptures such as the Vedas, the Puranas, the Brahmans, Srutis and Smritis have the detailed descriptions of the region. Lack of information and maps of the region is one of the reasons of greater dependency on mythological accounts even today. Kedarkhand and Manaskhand of Skand Puran are full of regional information. Each and every religious detail is given there. The Mahabharata underlines the religious importance of the region and provides an inventory of sacred places. The Puranas describe the glory of pilgrimage to different places. The Kedarkhand and Manaskhand of Skand Puran are almost entirely devoted to the description of pilgrimage to Badri-Kedar Kshetra and Kumaon.

Early exploration accounts of Skinner, 'Excursions in India including the walk over the Himalaya Mountains to the source of the Jamuna and the Ganga' (1832), provide important geographical account of the unexplored regions. Atkinson's 'The Himalayan

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Districts of the North Western Province of India' (1882-84) and vol. XI of the gazetteer reprinted in 1973 under the revised title, 'The Himalayan Gazetteer,' (six vols) give historical, geographical, botanical, economic and all sorts of information of that time. Mountaineering accounts of yester years are of great importance. Among them, Smythe's 'Kamet Conquered' (1932) and 'Valley of Flowers' (1947), Tillman's 'The Ascent of Nanda Devi' (1937), Hedin's 'Trans Himalaya' (1931), Marco Pallis' 'Peaks and Lamas' (1946), Bruce's 'The Assault of Mount Everest' (1923), etc are the famous few, full of factual accounts and sometimes provide comparison of Himalayas with Alps. Apart from early 20th century accounts there are hundreds of present day first hand expedition records.

Sociological and historical details of sociologists and historians too were of great help. Among them the prominent are Patiram's 'Garhwal Ancient & Modern' (1916), Painuli's 'A Tourist View of the Valley of Gods' (1959), O'akley's 'The Holy Himalaya' (1906), Dabral's 'Uttarkhand ka Itihas' 8 vols (1965-77), and 'Uttarkhand Yatra Darshan' (1960), Sankratyayan's 'Himalaya Parichaya' part I (1953), Fonia's 'Uttarkhand: Garhwal Himalaya' (1977), Singh's 'Tourism and Tourist Industry in U.P.' (1975), Kandari (1984) and Adhikari & Rawat (1990).

Apart from sociological, historical and early exploratory details few mountaineering journals also provide useful information. Prominent among them are Indian Mountaineer, New Delhi, Himalayan Journal, Calcutta and Abhiyatri, New Delhi. For Alpine tourism development quite a lot of references were consulted in depth. Lloyd's 'The Economic Development of Tourist Industry in New Zealand' (1964), Mcintosh's 'Tourism Principles, Practices and Philosophy' (1972), Nigel Hunt's 'Camping' (1975), Peter Murphy's 'Tourism: A Community Approach' (1985), Douglas Pearce's 'Tourism Today' (1987) and Robinson's 'A Geography of Tourism' (1981) are of great importance.

For Himalayan tourism or say mountain sports activities in the region no specialised study has been done so far, but few references are of help. Among them Kaur's 'Himalayan Pilgrimage and the New Tourism' (1985), Singh's 'The Kulu Valley Impact of Tourism Development in the Mountain Area' (1989), Gary

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Weare's 'Trekking in the Indian Himalaya' (1986), Gupta's 'The Living Himalaya' (1983), Malhotra's 'Gangotri and Gaumukh' (1983) and Kohli's 'Mountaineering in India' (1989) are of importance.

1.4 Concluding Remarks

Uttarkashi and Chamoli districts with meagre mineral resources and fragile eco-system have got no scope for any big manufacturing industry, agriculture, economic development and growth of the region. Mountain tourism is the only silver lining on the dark industrial horizon of northern Garhwal (U.P. government declared Uttarkashi and Chamoli as 'no' industry districts). Himalayan tourism in such regions can play a positive role in breaking through the vicious cycle of unemployment and checking the manpower drainage to plains. As a catalyst, it can bring speedy socio-economic transformation of the society and can create an awareness about the eco-conservation among the local people. But short-sighted tourism planning and negligent attitude towards resource inventory of tourism can lead towards ad hocism, ecological problems and utter frustration among local people. Far-sighted mountain tourism development can provide alternative and sustainable development of the region.

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2

Elements of Adventure Tourism

2.1 Introduction

Beauty can be a panacea for mankind's fret and fever. Our scriptures say, "all that's beautiful is sacred, all that is sacred is beautiful". Mountains are sacred because they possess beauty and they inspire mankind to meditate and grow spiritually. Beauty can be natural or man made. For attracting tourists it has to exist in either form. There should be some thing very unique in an area to attract the tourists. Basically there are three elements of tourism—locale, transport and accommodation. If the place is rich in natural beauty, amenities can be provided later on to make it a tourist destination. Hence scenic beauty is the primary plus point for a place to become a tourist destination.

Tourists like to spend their long holidays away from their usual residence, where they can enjoy nature and avoid urban agglomeration with least interference. General attractiveness of an area or its scenic quality is today a much sought after commodity. More often, the physical characteristics of natural features determine scenic quality of a landscape. Identification of the existing attractions is the first priority of tourism development. Later comes the infrastructure, market analysis and profit-loss etc while all the components of tourism are essential and important for its growth, attractions provide the energizing power. It can be called the stimulator, the motivator for the tourist. Attractions not only provide the things to see and do but also lure the tourist.

Tourist spots of Uttarkashi and Chamoli districts of Garhwal

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are replete with marvellous beauty and packed with the grandeur of nature. Divinity manifests itself in the lap of the Himalaya. The holiest of the holy shrines of Hindus—Badri, Kedar, Gangotri, Yamunotri and Hemkund-Lokpal are located here. This land of sages, religion and cult is rich in natural assets with a variety of landscapes, the lush green valleys, majestic snow-covered peaks, soft pastures, gushing rivers, bubbling streams, tranquil tarns, majestic waterfalls, natural geysers, gaping gorges and salubrious climate. This divine wilderness is adventurer's challenge, the trailer's delight, artist's supereminent inspiration, photographer's paradise, nature's superlative and a sanctuary of variegated fauna. "Is there any region of the Himalaya or even of the world, to excel this region in beauty and grandeur? Where are these to be found; such narrow and precipitous valleys and gorges, such serene vistas of Alps, forest, snow field and peaks."[1]

To the Indian mind Himalaya and holiness are inseparable. Our scriptures recite rapturously that in the silent communion with the beauty and solitude of nature man gets rejuvenated with the feeling of supreme spirituality. East and west, all agree that there is something in the wilderness that lures and enlivens mankind. Though much has been said about the tourist attractions of this region by great explorers and mountaineers, but still it is not properly publicised. Even today wandering in Garhwal is like exploring a new continent.

The tourist attractions of this region can be divided into natural, religious, social and other attractions.

2.2 Natural Attractions

Himalaya and its fascinating scenery are the great assets of the region. Really so outstanding and unique are they that the entire tourist industry of the region can bank on them. Figure 2 depicts all the major natural attractions of the area.

2.2.1 Landscape and Peaks

An attractive landscape is the asset on which mountain tourism can bank. Jafari highly emphasised the importance of the background tourist element "... it may be stated that they are the foun-

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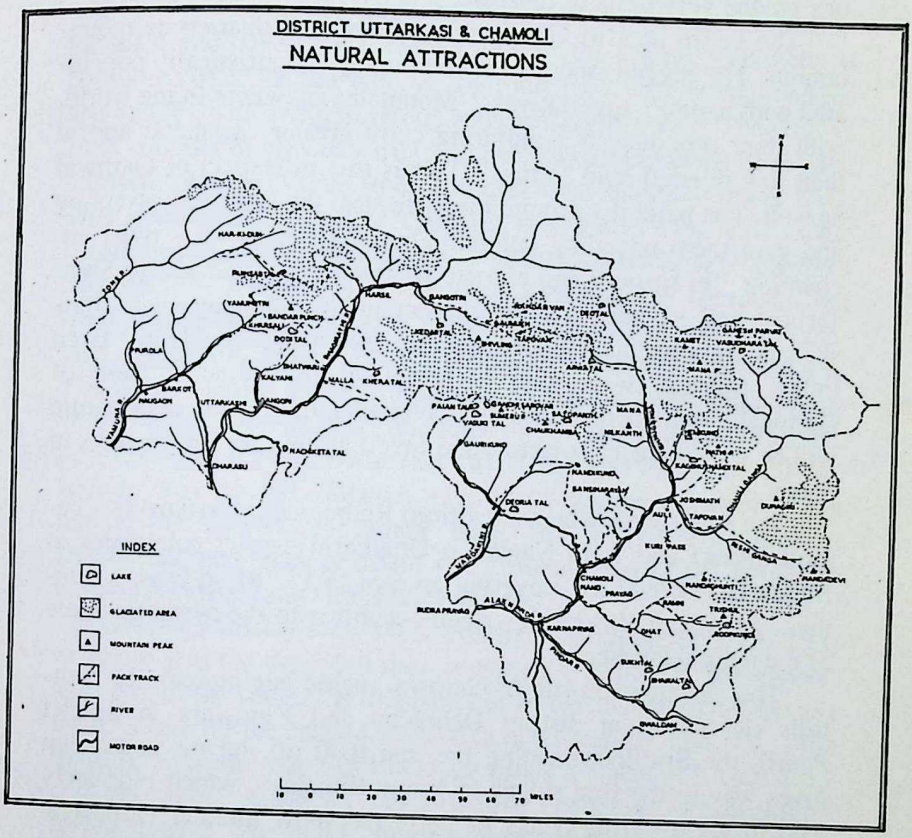

Fig. 2. Natural attractions.

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dation and raison d'etre of the tourism industry. They are the reason for which the consumer tourist travels. Attractions and amenities are the very basis of tourism."[2]

The entire area of Uttarkashi and Chamoli districts is mountainous. The rugged landmass is thoroughly and artistically punctuated with nature's superlatives. ''Mountains anywhere in the world, with their pronounced sculpturing carry greater aesthetic appeal than low reliefed land forms."[3] This is true in respect of Garhwal as well. The natural surroundings here steal the heart of passers-by and give them unending delight. The landscape here is most enchanting. "In scenery and climate Garhwal is comparable to Switzerland and its best, and no district in the Himalaya can show scenery combing such tender beauties and savage grandeur."[4] Even today, one can walk with his own shadow in some treks of Garhwal. Such unspoilt and non-commercialised pockets of nature will be the means of solace to the tired city dweller, in the days to come.

The study area, which rises from Rudraprayag (610 m) in Chamoli district and from Nagun in Uttarkashi district culminates at Nanda Devi (7817 m), covering an area of 17,141 sq kms. Mountain system can also be described according to the aesthetic value of the natural landscape.

The elevation profile of Garhwal region begins with the foothills (Rishikesh in district Dehradun and Kotdwara in district Pauri), the Siwaliks meeting the dun (600 m), on the south dun gives way to the first ridges of lesser Himalaya, which ultimately lead to the towering peaks of perpetual snow (greater Himalaya, the core region of Himalaya) and forms Indo-Tibetan border on the extreme north. Central axis, which forms the part of greater Himalaya, passes through Yamunotri, Harsil, Dabrani, south of Kedarnath and Nanda Devi. The scenery changes its hue and colours at each and every place. The lesser Himalayan zone is dissected by various narrow, wide and precipitous glens. The main rivers draining the region are the Tons, Yamuna, Alaknanda and Bhagirathi. "It is a massive mountainous tract separated by the 'central Himalayan Thrust' and the 'Main Boundary Fault', from the north and south respectively, with an approximate width of 75 kms. The region is a tangeled mass of series of ridges and spurs of various

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height divided by deep valleys. The average relief of ridges in this zone ranges between 1500 m and 2700 m, and of valley bottoms between 500 and 1200 m."[5]

Greater Himalaya with a mean relief average between 4800 and 6000 m has varying width of 75 kms in the east and 30 kms in the west and covers 28.5 percent area of the region. This zone is composed of crystalline and metamorphic rocks of granite, gneisses and schists with unfossiliferous sedimentary deposits. The Tethys zone consists of grey calcarious stones, containing kinds of fossils, unfossiliferous Niti lime stone and dark blue shades of lower trias. This uninhabited region of Garhwal is studded with hard rocks, boulders, mountains, snow-covered peaks, rivers, valleys, pastures and glaciers. It has most difficult physiography to approach, but most enchanting landscape to enjoy and gape. This greater Himalayan chain bifurcates at many places to throw-off other ranges. The first is called Zaskar range, which runs a little south of the watershed in Garhwal and has high peaks like Kamet (7756 m), Abi Gamini (7376 m), Rataban (6168 m) and Trisul (7120 m). Before 1962 the Indo-Tibetan trade was a common feature of the region. The second tributary range of greater Himalaya is Dhauladhar near Banderpunch, which forms part of the boundary between Garhwal and Himachal Pradesh.

Greater Himalaya has sheer precipice dropping of 2000-2500 m below into the deep and narrow gorges that horrify the viewer. This part of the country is difficult, but so fascinating that it always inspires one for the second visit. Meads has rightly said, " . . . the mystery is aweful, the thrill is some times a shudder."[6] This difficult but unique scenery is an attractive challenge for adventure-loving tourists. The highly rugged topography of this zone, sculptured by past gigantic glaciers and mighty rivers presents one of the most pious and unforgettable scenery. "The mountains in Garhwal region are more immediate and impressive than in any other region of the Himalaya and it is easy to understand why the range is considered to be the abode of the Gods."[7]

It would be unfair to go ahead by making a general statement about higher Himalaya and its touristic potentials, the actual attractions are the towering snow-covered peaks that make the scenery challenging and beautiful to adventurers. The chains of high moun-

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tain peaks are divided into different mountain groups by the mighty rivers of Garhwal. The high peaks of Banderpunch (6302 m), Kalanag (6387 m), Swaragarohini (6252 m), and Yamunotri lie between the Tons and Bhagirathi rivers, Matri (6721 m) Chirbas (6525 m), Trimukh Parbat (6422 m) between Jadh Ganga and the Bhagirathi rivers.

Another cluster of peaks lies in between Bhagirathi and Saraswati (tributary of Alaknanda) rivers. Since time immemorial this area and its peaks were most adored by the Gods and even today pose a great challenge for the mountaineers. Famous among this cluster of peaks are Chaukhamba (I-7140, II-7070, III-6970, IV-6850 m) situated on the west of Badrinath temple, due east of Chaukhamba are Parvati Parbat (6257 m), Satopanth tal, Nilkantha (6600 m) and Narayan Parbat (6190 m), on the west are Mandani Parbat (6190 m), Yaunkbak (5953 m), Kharchakund (6630 m) and Sumeru Parbat (6350 m). Extreme west of Chaukhamba is Kedarnath peak (6970 m), north west of it is Kirtistambha (6270 m) and on the other side of Kirti glacier are Shivling (6540 m) and Bhrigupanth (6770 m). Gangotri glacier, which starts from Chaukhamba and ends at Gaumukh is almost encircled by the snow-covered peaks. At north-west of Chaukhamba are Satopanth (7070 m), Vasuki Parbat (6790 m), Bhagirathi group and Chandra Parbat (6739 m).

North of Chandra is Manda Parbat (6794 m), Sri Kailash (6932 m) and Trimukh Parbat (6422 m). On the west of Gaumukh are Sri Kantha (6132 m), Rudragaira (5818 m) and Gangotri group (I-6672, II-6590, III-6577 m), on south-west are Jaonli (6632 m), Jogin group (I-6455, II-6342, III-6116 m), Phating Pithwar (6904 m) and Ratangeri (5858 m). The banks of Phating Pithwar and Jogin touch Khatling glacier in Tehri district. Various peaks and glaciers of Gangotri region are shown in Fig. 3.

A group of challenging peaks are situated between Saraswati and Dhauli Ganga rivers. Prominent among them are Kamet (7759 m), Abi Gamin (7355 m), Rataban (6166 m) (in Zaskar range). Mana (7272 m), Mukut Parbat (7242 m), Hathi Parbat (6727 m), Ghori Parbat (6708 m), Mandir Parbat (6708 m) and Ganesh Parbat (6532 m) etc. Another but most important cluster of peaks is the one which gives rise to Rishi Ganga river from its bosom and is

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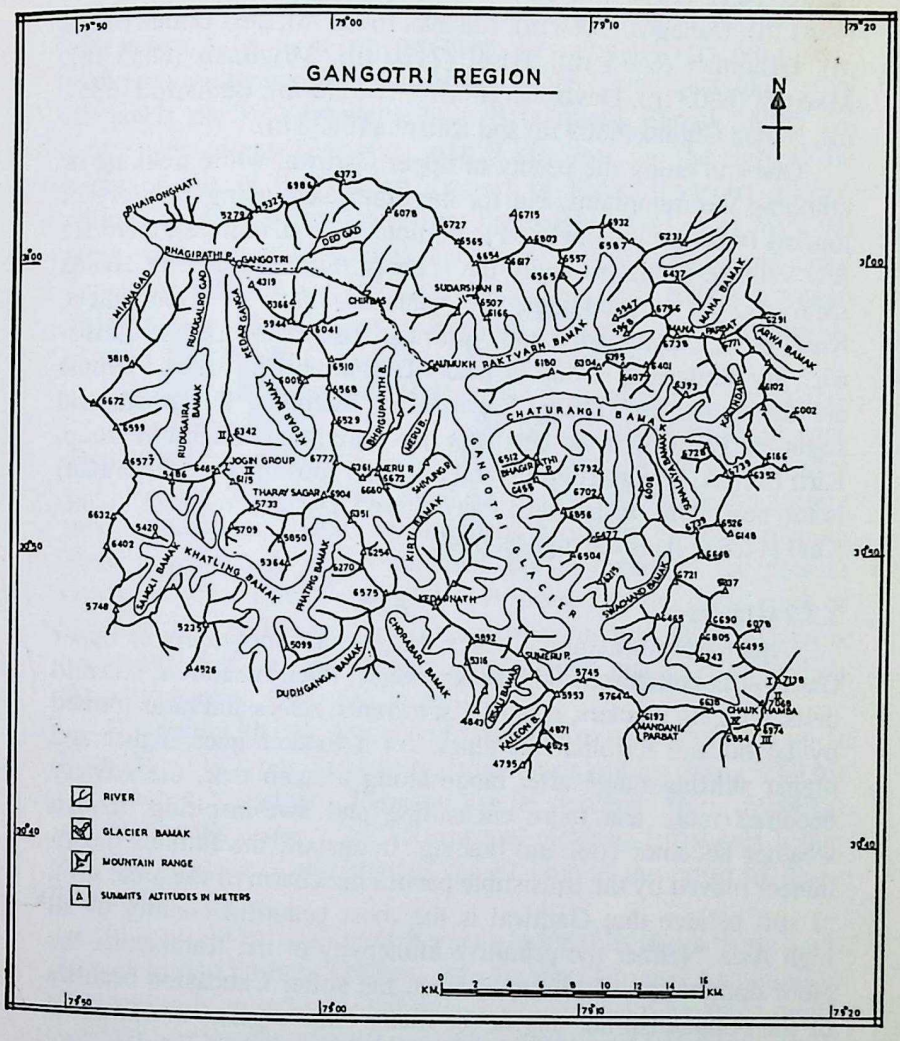

Fig. 3. Gangotri region.

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known as inner Nanda Devi sanctuary. This horse shoe-shaped fortress is guarded by most difficult and high sentinels of India like Nanda Devi (7817 m), Nanda Devi east (7430 m), Nanda Kot (6881 m), Dunagiri (7066 m), Kalanka (6931 m), Deo Damla (6620 m), Hanuman (6075 m), Trisul (7120 m), Mrigthuni (6855 m), Maiktoli (6803 m), Devisthan (I-6678, II-6529 m), Bethartoli (6352 m), Nanda Ghunti (6309 m) and Kalanka (6930 m).

One can enjoy the beauty of upper Garhwal while trekking or climbing the mountains, but for the other easy going category of tourists (who are less inclined to participate in adventure), there are few vantage points to enjoy the scenery. For the view of Nanda Devi and its surroundings, the vantage points are Debrugheta, Kuari pass, Chandershila and Auli near Joshimath in Chamoli district, for Kedarnath group of peaks Durital and Kedarnath temple are the spots. For Thalay Sagar, Kirti Stambha, Kedarnath and Jogin etc Panwali is the best spot. For Shivling, Bhagirathi group, Kirti Bamak, Gangotri group and others, Tapovan (near Gaumukh) is the best point. In between Panwali and Trijuginarayan, Kinkona Khal (11,800 ft) is the highest pass.

2.2.2 Glaciers

Apart from the snowy peaks the glacial topography of upper Garhwal is punctuated with rocky ridges, thick meadows, emerald dells, hanging glaciers, water falls, torrents, rivers and tarns formed by lateral and terminal moraines. As a trekker goes higher and higher skirting range after range along a steep trek, the scenery becomes more and more enchanting and awe-inspiring, though weather becomes cool and bracing. Longstaff, the famous mountaineer moved by the irresistible panoramic charm of the area, says, "I still believe that Garhwal is the most beautiful country of all high Asia. Neither the primitive immensity of the Karakoram, the aloof domination of Mount Everest, the softer Caucasion beauties of the Hindukush nor any of the many other regions of Himachal can compare with Garhwal."[8]

There are numerous glaciers in the Uttarkashi and Chamoli districts of Garhwal and their spread is stupendous. Garhwal is one of the most glaciated regions and here the glaciers' maze is most amazing. Even present land form is an evidence of ice-sculpture re-

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sulted from age-old gigantic glaciers. Valleys between 2000 and 3000 m show the glacial feature wherever not blot out by fluvial action. In the vast glacial stretch of Garhwal (extreme left) on the west is Banderpunch and deep down (extreme right) on the south east is Nanda Devi. In between there are many glaciers, but prominent among them is Gangotri glacier. In the lower crest zone, Banderpunch glacier originates from Batiakhund Bamak (6285 m) peak. It disgorges Tons river after 9 kms run. On the right is the snout of one of the longest glaciers of India, Gangotri glacier, which descends steep down from the height of 7138 m from the north-west slopes of Chaukhamba peaks. This is 25 kms long and 2 kms wide and later the fall becomes shallow. It is fed by a system of tributary glaciers known as Mainadi (5 kms long), Swechhanda (7 kms), Chaturangi (16 kms) and Kirti Bamak etc.

Bhrigupanth, Meru and Raktavarna were also important tributaries to Gangotri glacier in an early period, although these have developed separate snouts and no longer join it. On the south valley wall of the Bhagirathi river, about 4 kms downstream of the present snout of Gangotri glacier is Bhrigupanth glacier. Another glacier, Meru is located on the south flank but upstream of the present Gangotri snout. Raktavarna glacier is located on the north bank of Gangotri glacier. Chaturangi, the east-west running valley glacier is the longest tributary of Gangotri glacier. Kirti glacier is located on the south bank of Gangotri glacier.

Bhagirathi kharak descends from 6984 m peak and ends up at Vasudhara (17 kms). Satopanth glacier starts rolling from (6864 m) and reaches Vasudhara. Panpatia glacier descends from (6974 m) and covers the distance of 2.5 kms and picks its tributaries Vidun and Bagni glaciers and spreads for 12 kms to the north of Arwa Pahar (5873 m).

In central Garhwal, west Kamet glacier rolls down from south face of Mukut Parbat (7242 m), Abi Gamin Cum and Kamet north face and ends up at Khati. Subsidiary Mukut west ridge from south-west face of Kamet. The tributaries are Uttari and Dakshini Chamirao and Khagyan glaciers. The east Kamet glacier starts from east face of Kamet and Abi Gamin (7355 m) and stops at Dobal (12 kms), embracing on the way Raykana, Uttari Raykana and Ganesh glaciers. Bonkud glacier emerging from Guptakhal (5807 m) flows

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to Mulya Bamak (15 kms), sweeping ten big and small—Devban, Nagthuni, Uttari and Dakshini Nagthuni, Semkharak, Andardip, Kosa, Khuliyagamya, Raj, Dunagiri and Tipra glaciers.

Nanda Devi sanctuary (Rishi valley) is a beautiful amphitheater of snow covered peaks and small glaciers of their names. Well known among them are North Rishi, North Nanda Devi, South Rishi, South Nanda Devi, Changabang, Trisul Ramani and Bethertoli glaciers.

2.2.3 Water System

The water system of the region consists of rivers, streams, tarns and torrents. The major rivers Bhagirathi, Alaknanda, Yamuna and Tons have their origin in this region and all other streams and rivulets empty themselves in them. Unfortunately this water resource couldn't be utilised for the development of the region. Rivers are running deep down into the gorges from where it couldn't be utilised for irrigation or any other purpose, resulting in low-yielding dry farming and manpower drainage to plains. These water resource potentials can be utilised for irrigation, power generation and water sports. Water sports like rafting has been introduced in some rivers of Garhwal successfully.

Rivers

Most of the rivers of Garhwal have got the tendency of flowing parallel to mountains in deep gorges and do not descend from the highest peaks. Generally they descend from their own glaciers and on the way they collect water from the great Himalayan ranges. The river system of Garhwal can be divided into two—

1. The Ganga system
2. The Yamuna system

1. *Ganga System*

In 1807 N.S. Webb of the East India Company was deputed to explore the source of Ganga, but he could not succeed. In 1808 Caption Raper was sent to achieve this mission, but it was only after 1857 that the British could achieve the mission. Bhagirathi, one of the tributaries of Ganga, originates from the snout of Gangotri glacier, whereas Alaknanda, the other and main tributary

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emerges from the Bhagirathi Khark and Satopanth glaciers, east of Chaukhamba peaks. After flowing in opposite directions from their snouts they meet at Deoprayag and is known as Ganga. The following rivers come under Ganga system:

a) *Alaknanda*

Trekking to the source of Alaknanda is an arduous journey to a fairy land that unveils itself gradually and is known as the abode of Kuber (the Yakshas and Gandharvas of Hindu mythology). A descent of 3 kms from here leads towards a pleasant surprise of dense forests of silver birch forest of Lakshmivan. Four kms from here, is famous Vasudhara falls (122 m), set in the area of rocky heights with a backdrop of snowy peaks and glaciers that present a unique phenomenon of nature. Tumbling waters of Vasudhara falls caught by the cold winds diffuse in fine showers and soft puffs. Close to Vasudhara are Chaukhamba, Nilkanth, Satopanth, Balkum and many unnamed peaks. Nine kms ahead of Lakshmivan is a place known as Chakratirtha, where Nar and Narayan mountains meet and form a lovely circular valley of Alpine flowers and meandering brooks. Further four kms ahead is a triangular lake, Satopanth, at an altitude of 4402 m. It is believed that Brahma, Vishnu and Shiva—the creator, preserver and the destroyer of the universe—are meditating at the three corners of this lake. Majestically standing, Swargarohini (the stairway to heaven) is a mythological mountain. In Puranic literature it is said that Pandavas ascended this mountain with seven giant steps and went to heaven.

b) *Sarasvati*

Sarasvati emerging from the waters of Deotal and Ragastal (from the crest of the Mana pass), passes through the most desolate valley covered with moranic debris of Ratakona, Gierchakona, Khati and meets Arwa river coming from Arwatal, at Ghastoli. Both the rivers are fed by great Zaskar range. Later the confluence of the waters of Sarasvati and Alaknanda takes place at Keshava Prayag (Mana). The valley of Sarasvati is bounded on the west by the snowy chain separating it from the head waters of Jhanavi, a feeder of the Bhagirathi. On either side, it receives numerous torrents rising from the glaciers. From October to May, the water of Sarasvati remains crystal clear with blue hue in

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contrast to the colourless water of Alaknanda. Sarasvati is the Goddess of learning. It is said that by the blessings of Sarasvati, Rishi Ved Vyas could compose Mahabharata at Mana. Even the ancient Indo-Tibetan trade route was along the bank of Sarasvati via Mana pass (5453 m), approaching Tholingmath. From Mana, Alakananda descends down to Badrinath (a valley approximately 4.5 kms long and 1.5 kms broad). Kishir Ganga, Lakshman Ganga (Bhundhar Ganga) joint Alaknanda enroute where one finds the most beautiful Himalayan scenery with well-wooded forest and open valleys.

c) *Dhauli Ganga*

Dhauli, the principal tributary of Alaknanda emanates from the eastern glaciers of Kamet, Mana and Abi Gamin. It passes through Kanajari Sisang and Kunglang, an uninhabited rocky solitude interrupted by the falling boulders, growl of avalanches and the noise of roaring torrents, collects water of Ganesh Ganga (that emerges from Ganesh Parbat) and Amrit Ganga (from the northern slopes of Rataban and other peaks). Later Dhauli meets Girthi Ganga from Kungribingrila. The tributaries of Girthi Ganga are Youggad (from Barahoti) and Kiogad (from Lapthal).

Dhauli has most tortuous course among the rivers of Garhwal. Every turn in the river reveals new beauties and grandeurs. Smythe, while walking in Dhauli valley found the deep gorges and noisy torrents most interesting. Something like walking in the whispering gallery of Gods.[9] Later Dhauli collects water of Raikananadi and passes through Gothing and reaches Niti.

The stoney field of Niti gives a rugged scenery. At several places the boulders form natural bridges over Dhauliganga. Niti, Bampa and Gamsali are the summer shelters of the nomadic Bhotias. Western Dhauli valley is known as Niti valley.

Later Dhauli flows down and meets Alaknanda at Vishnuprayag near Joshimath and becomes Alaknanda on the way to Nandprayag. Alaknanda collects water from Patal Ganga, Birahi Ganga, Dudh Ganga, Garur Ganga and at Nandprayag meets Nandakini which comes from its sources Sila-Samudra glacier and Trisul massif. Later at Karanprayag, Alaknanda collects waters of Pinder and flows down towards Rudraprayag where it meets Mandakini.

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d) *Rishi Ganga*

Rishi Ganga, one of the major tributaries of Dhauli Ganga, emerges from the south Nanda Devi glacier and south Rishi glacier. Very soon it is joined by a tributary emerging from Changabang glacier. Rishi Ganga flows into deep gorges and moves along its path, collecting water from various torrents from both sides and ultimately it joints Dhauli Ganga at Reni Village.

e) *Mandakini*

Mandakini is a major river of Kedar valley. It originates from a small glacier, Chaurabari, which is little down the Chaurabarital (Gandhi Sarovar). The snout of the glacier has no sign of change since its inception. From Rudraprayag to Chaurabari glacier, the whole valley presents most unforgettable scenery. The entire Mandakini valley is full of lush green thick forests, clouds, bubbling streams and rivulets. Upper Kedarnath valley is most enchanting amid beautiful Alpine flowers and these flowers can be seen from August to mid September.

The mighty Alaknanda from its inception to its confluence with Bhagirathi at Deoprayag, flows wide, narrow, deep and fast from place to place. At Koteshwar, one km ahead of Rudraprayag it becomes so narrow that a barking deer is said to have crossed it in a jump, therefore the place is known as Kakarfali (barking deer's leap). Most of the rivers and the torrents emerging from the glaciers have wide open and beautiful valleys, deep ravines and gorges.

f) *Bhagirathi*

The most important tributary of Ganga is Bhagirathi. Emerging from the mighty Gangotri glacier, this holy river is known as Ganga at Gangotri. Mythology holds that hundreds of years ago Ganga came all the way from the heaven to the earth. It was the time when Gangotri glacier spread upto the Gangotri temple. But due to geophysical and other changes, the glacier melted and the snout receded to Gaumukh. It is said that several years of intensive meditation of king Bhagirath made Ganga to descend from the heaven to the earth. Deogad is the first rivulet emerging from Deogad Bamak to join Bhagirathi. Later at Gangotri, Kedar Ganga

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originating from Kedar Bamak flows into Bhagirathi. Various small revulets like Ghoragad, Nilapanigad and Lambigad etc join together and form Managad, which passes through Naga, a small place from where starts a track which goes upto Dasumdu. Jadang is only 3 kms from here and Jelukhaga pass is 26 kms away. One small rivulet, Chorgad emerging from Chorgad Bamak joins Managad at Dhumku and becomes Jadh Ganga or Jahnvi, the largest feeder of Bhagirathi, emptying itself at Bhairoghati. Jadh Ganga valley is a restricted area where no one can go without prior permission. First explorers to the source of Jahnvi were Mr. J.B. Fraser (1815) and Messers Hodgson & Herbert (1817). But the credit goes to Mr. Kinney for the great trigonometrical survey which established a firm proof of origin and course of Jadh Ganga. At Harsil, Jalandrigad, emerging from Lamkhaga Bamak meets Bhagirathi. Varun and Ashi are the tributaries of Bhagirathi. Small township of Uttarkashi is situated on the banks of Bhagirathi. Due to Varun and Ashi rivers, the town is religiously as important for Hindus as Varanasi. Before Tehri many streams and rivulets join the main stream. At Tehri, Bhilangana, which emerges from Sri Kantha peak above Khatling glacier, meets Bhagirathi and later at Deoprayag, young Bhagirathi meets mature Alaknanda and is called Ganga, which flows down to Rishikesh, Hardwar and so on. Due to its maturity, at Allahabad Ganga maintains its identity as Ganga, whereas Yamuna gets submerged into it.

2. *Yamuna System*

The second important river of Garhwal, Yamuna emerges from Sapta Rishi kund which is on the south-western slopes of Banderpunch peak at an altitude of 3287 m. The principal source is 500 ft north-west above the hot spring of Yamunotri, where the face of the mountain makes a very steep rise and is entirely cased in snow and ice. Though there is no great difference of elevation from Yamunotri temple to the source of Yamuna, but the trek becomes difficult and interesting by the closed mountain set up and dark rocky cliffs. Captain Skinner rightly says, "I have beheld all the celebrated scenery of Europe, which poets and painters have immortalised, and of which all the tourists in the world are enamoured; but I have seen it surpassed in these unfrequented and

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almost unknown region."[10] After 158 years of his visit, the region is still the same, an unfrequented fairy land. He further says, "Behind me, to the north-west, were the snows of Banderpunch and Dootie whence the Jamuna flows; thence, toward the east rose the high peaks which mark the source of the holy river, the Ganga—the Rudru Himaleh, like a white cloud in the horizon—Kedarnath and Badrinath, those mightly objects of Hindoo superstition mixing with the skies; So far out-topping other heights that I had almost considered them illusory, I began to doubt, as I gazed on them, whether there was any interval between Heaven and earth."[11]

The following rivers are from the Yamuna system:

a) *Tons*

Its tributaries Rupin, Supin, Har-ki-Doon-gad and Ruinsara-gad feed western Uttarkashi district. Obra-gad, a tributary to Supin originates from Devkir glacier, meets Supin and flows down until it meets Tons. Devkirdhar above Devkir glacier works as boundary wall between Uttarkashi and Himachal Pradesh. Har-ki-Doon-gad collects water from Maninda-gad, which originates from the ice walls down below Borasu ghati, joins Ruinsara-gad, which comes from Ruinsara tal. This joint river ultimately joins Tons at Dauasu and flows down with the water of Supin for hugging sister rivulet Rupin at Naitwar. Later Tons joins Yamuna at Kalsi. Figure 4 shows main rivers and their tributaries of Uttarkashi and Chamoli districts.

Lakes and Tarns

Upper Garhwal Himalaya is famous for its tranquil tarns, which are generally found around 3000 m above the sea level. Most of these tarns are formed by the landslide and heaps of debris, partly blocking the rivers or streams. Though some are fed by the underground sources. Some time they are short lived. Mostly glacial lakes are formed by plugging of valleys by moraines deposited by ancient giant glaciers. Mostly they are sweet water lakes but few are of brine water too. Unfortunately, some are dried up lake areas today. The largest lake of Uttarakhand, Gohna in Chamoli district is the latest example of such happenings. This lake came into existence near Gohna village on 6th August,

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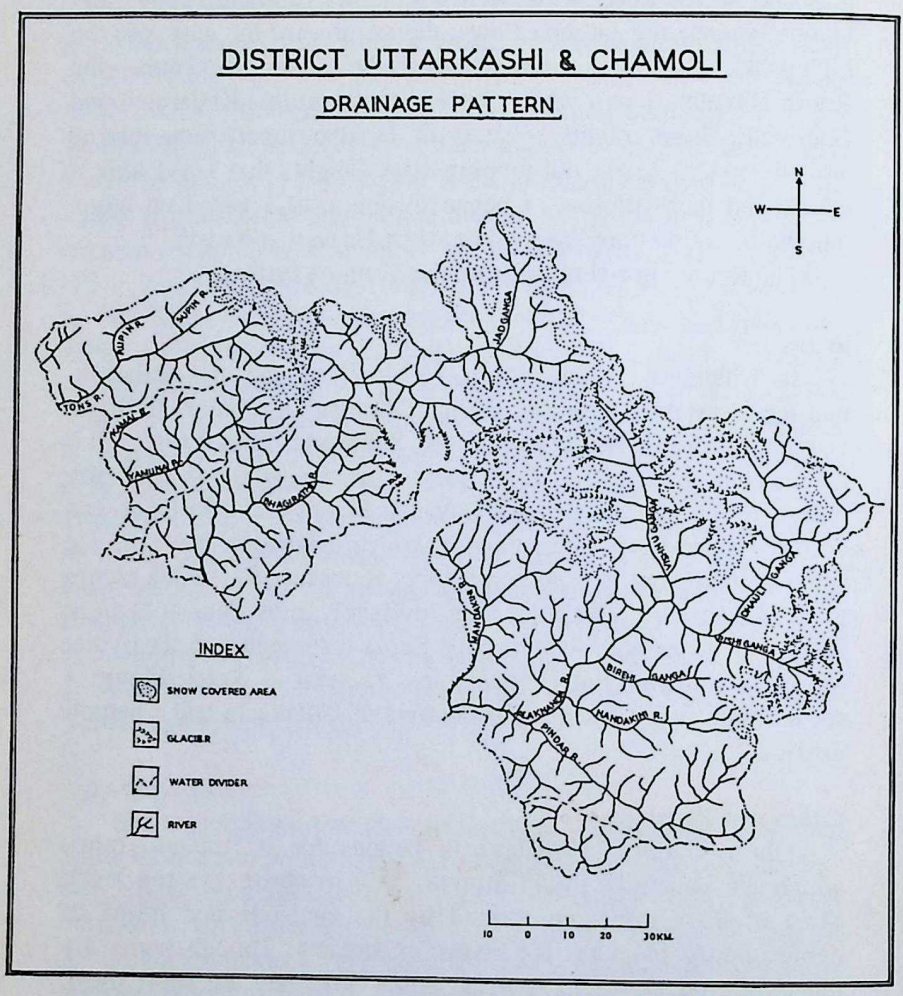

Fig. 4. Drainage pattern.

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1893 with a huge landslide blocking a river called Birahi Ganga. In 1930 the forest department released some trout fishes in the lake and very soon it became the anglers' paradise. But the cloud burst of 22nd July, 1970 made the lake overflow and break the wall of one side, resulting in a devastating flood. Suddenly on 26th July, 1970 the lake disappeared. But the dried lake tells the sad tale of Gohna lake.

Most of the Himalayan tarns here are associated with one or the other mythological gods, goddesses or saints. Some of the tarns are very beautiful and easily accessible. Trekking to these tarns is a sublime experience.

a) *Dodital*

One of the lovelist lakes of Garhwal, Dodital is located at an altitude of 3024 m above sea level with an area of 1 sq km. In 1948 Mr. Jack Gibson (Head Master of Doon School) took the school boys upto the lake. Gradually it became one of the most popular lakes among the tourists.

This lake can be approached from Gangori (5 kms from Uttarkashi, on way to Gangotri), a small village with a motorable road. Seven kms from here, there is a small village Kalyani. The trek begins from here for Agoda village (5 kms from Kalyani). From Agoda one enters a dense mixed forest of oak, rhododendron, blue pine, maple, spruce and fir etc. This 16 kms trek is highly fascinating. In the name of the sage Dodi, who meditated here thousands of years ago, it is named as Dodital. This emerald blue lake of fresh water is surrounded by the trees of oak and rhododendron. An unnamed stream fills water into the lake, but a small river named Asi Ganga keeps emptying it. Fresh water trouts are one of the attractions for the tourists. Further one can trek upto Bakriyakhaga pass, from where the view of Banderpunch, Sri Kantha, Gangotri group and Jaonli etc can be enjoyed.

Wildlife around is leopard, jungle cat, leopard cat, Himalayan black bear, Himalayan palm civet, serow, samber, jackal, red fox, porcupine, monal pheasant and Himalayan golden eagle etc. A forest rest house and camping ground are there for tourist accommodation.

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b) *Nachiketatal*

A small but beautiful lake, Nachiketatal (approximately 600 sq m in area), is situated at an altitude of 2453 m east of Uttarkashi. Chaurangikhal, 23 kms from Uttarkashi, is the road-head for the lake. From Chaurangikhal one has to trek 3 kms in the thick forest. Though it is a very small lake but very easily accessible and beautifully situated. Watching fresh water trouts is an enchanting experience. The lake is surrounded by oak and rhododendron trees. Near the lake, there is a small temple of Nag Devta and every year on Nagpanchami day nearby villagers collect here for holy dip and worship.

From the west of the lake a vast panorama of Banderpunch region is worth-seeing. An adventure loving tourist can trek from Uttarkashi to Nachiketatal which is only 16 kms. Few shops and a P.W.D. rest house are there but one can camp near the lake.

c) *Kedartal*

This large emerald lake at an altitude of 5000 m is born of the Thalaysagar snows. The trek to the lake begins from Gangotri, just above Dandi Kshetra. The first 4 kms trek is a difficult one with steep rocky cliffs on the west and fast flowing Kedar Ganga in the deep gorge, on the east. The trek is used by the shepherds mainly. After a trek of 7.5 kms one reaches Bhojkharak. The steep climb goes through the balmy pine forest. Bhojkharak provides a beautiful camp site, but one can go to Kedarkharak (4 kms from Bhojkharak) for camping. At places the trek is hazardous because of rockfalls. Water is available every where on the way but fire wood is not available. Further 5 kms is Kedartal. The ascent through loose tumbling rocks is laborious and dangerous.

Kedar Ganga originating from Kedartal is considered Lord Shiva's contribution to the Bhagirathi. A ridge separates Kedartal from Rudragira Kharak. A ridge approximately 700 m, higher than Kedartal is a vantage point, from where one can get the vast view of Thalaysagar, Bhrigupanth and Jogin group of peaks and lush-green valleys down below. This is one of the most beautiful and unspoilt lakes of Garhwal Himalaya.

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d) *Sahastrutal*

Sahastru is the modification of the local, Garhwali word 'Sahasyu', which means seven. There are seven lakes on both sides of the watershed dividing Uttarkashi and Tehri districts. The pilgrimage to Sahastrutal is an annual event for the villagers of Uttarkashi and Tehri districts. The fresh water lakes change their colour with the glances of sun. The trek to these lakes begins from Malla (25 kms from Uttarkashi on way to Gangotri). From here the track goes to Shilla, Johra, Karki and then Dharmshala. It covers around 25 kms long track. Dharmshala is the base camp for seven lakes but the hut is not in good condition. Just after a trek of one km comes Lamatal, then Dudhi, Pari, Darhsan and Gaumukhital.

All these tals have good camp sites but Gaumukhi is better located. This thrilling trek comprises steep ascent and deep descent.

e) *Deoriatal*

At a distance of 5.5 kms from Mastura (road-head to the lake on the Gopeshwar-Ukhimath road), there is a beautiful lake situated on the ridge of a spur at an altitude of 2399 m above the sea level. Mastura is 8 kms from Ukhimath by road, but the steep mule track which starts from Mastura passes through a tiny village Sari and enters the rich mixed forest of pine, oak and rhododendron. "The lake is approximately 200 sq m in area and the maximum depth is 66 feet.''[12] There are underground water sources. The fresh tranquil water, merrily darting fishes, thick forest around the lake, magnificent Chaukhamba, Kedarnath and Bhartikhunta peaks on the north-west of the lake and their reflection in the water all together present irresistibly beautiful panorama for the visitors. The view from its banks is one of the grandest in the hills. Mr. Batten goes on to add that "the Pargana of Nagpur in Garhwal would never be forgotten by those who have spent a day on the bank of Diurital."[13]

f) *Hemkund-Lokpal*

Surrounded by the (Sapta Shringi) seven snow-covered peaks and glaciers at an altitude of 4150 m above the sea level, a beautiful lake, Hemkund-Lokpal is situated about 32 kms from Joshimath. The road-head for Hemkund-Lokpal is Govindghat. This lake

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commands two-fold sanctity, because of its association with Lakshman, one of the heros of Ramayana and the Sikh Guru Gobind Singh. The trek is a steep climb but a constant delight of Alpine flowers and superb scenery. Lakshman Ganga emerging from the lake meanders amidst the Alpine meadows of colourful brahmakamal, fen-kamal, hem-kamal, potentillas, Saxifraga, marsh-merry gold, blue poppy, ferns and primula etc and joins the Pushpawati river at Ghangaria (a halting place). Here the joint stream is known as Lakshman Ganga. Every year on the occasion of Rakshabandhan a local religious fair is held at Lokpal and a large number of Marcha women come here to tie the Rakhee to Lakshmanji. Ghangaria is coming up as a halting place for the tourists of Hemkund-Lokpal and the Valley of Flowers. Garhwal Mandal Vikas Nigam (GMVN) accommodation and Gurdwara accommodation are available here.

g) *Satopanth*

Situated at an altitude of 4402 m above sea level and 29 kms from Badrinath, is another glacial lake named Satopanth. It is considered one of the most pious lakes of the Hindus. This triangular lake is glorified by the belief of the devout that the holy trinity of the Hindus—Brahma, Vishnu and Shiva reside at the three corners of the lake. The journey from Vasudhara falls to Satopanth is difficult but beautiful. One must not go without guide and provisions—stove, tent, sleeping bag etc.

h) *Kakbhusandital*

A small oblong lake of emerald green water is situated at an altitude of about 5000 m, in the lap of Hati Parbat (6730 m). This beautiful lake is associated with the mythological character Kakbhusandi (the crow). The lake can be approached from two sides, either from Bhyunder village near Ghangaria or from Vishnu prayag.

The Ghangaria trek is comparatively easy as it passes through thick forests, boulders, glacial moraines and slippery rocks. Shepherd huts are the only place for night halts. The other approach from Vishnu Prayag is difficult due to steep ridges and climbs.

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i) *Deotal*

The holiest of the holy lake, Deotal, with a diametre of 800 m, is situated on the glacial moraines in the inner line area of Chamoli district. It is on the ancient Indo-Tibetan trade route, which passes through Mana pass for Tholingmath. The walk is most treacherous on the morainic debris of ancient glaciers. The lake remains frozen most of the time in the year.

j) *Bhaikaltal*

A small tarn, with an area of 400 sq m is situated on the top of a ridge at an altitude of 3135 m above the sea level. It is 13 kms from the village Phaldiya in Chamoli district. This lake is surrounded by the thick line of rhododendron, oak, hill bamboo and scanty spruce trees, hence in winter it gets little sun and the water turns into ice. This ice-frozen area was used for ice-skating by the Britishers. The trek to the lake passes through a thick forest, where wild birds abound and cattle and shepherd huts provide an enchanting experience. These shepherd huts are the only accommodation in the area apart from camping ground.

k) *Brahamtal*

Crystal clear waters of Brahamtal, with an area of 700 sq m is fed by three beautiful bubbling mountain streams coming from three different sides. This beautiful lake is 3 kms ahead of Bhaikaltal, amidst picturesque natural surroundings. A solitary oak tree on the upper side of the lake, vast stretches of Alpine meadows and floating brown ducks present unforgettable scenery. This continuously filling lake hasn't got any visible outlet for water, though certainly it must exist in its bosom (underground outlet). A government sheep breeding farm is located nearby. Sheep, goats, horses, ponies, cows, buffalows and shepherds are seen around during summer months. Alpine flowers and rhododendron dwarfs are the unique decorations of this mountain scenery.

Bhaikaltal and Brahamtal are the summer water points for wild animals like brown bear, wild boar and deer etc of nearby forest.

l) *Vednikund*

A vast stretch of Alpine meadows, at an altitude of 3354 m,

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decorated with colourful flowers during July-August is known as Vedni bugyal. Amidst such surroundings a natural source of water and a dry lake tells the tale of an age-old lake, which was of immense religious significance. The famous Nanda Rajjat (Bari & Chote) procession used to go via Vednikund with great reverence and rejoicing, Vedni is 10 kms from Debal (the road-head), the trek amid a thick forest is interesting. Now a man-made lake is coming up here by controlling the water of the Vedni spring. This is one of the best camp sites of the area. In winters it could be used for snow skiing. Neighbouring Auli slopes are most suitable for snow skiing.

m) *Roopkund*

Debal, the road-head for Roopkund trek is 57 kms from Karanprayag and one has to follow the path to Vednikund. Leaving behind Vedni the trekker has to proceed further for Bhagubasa, a halting place for Roopkund trek. From here the trek takes four hours. This small, but beautiful mysterious lake is situated below the Trisul massif on a mountain close to Chandanikot (5023 m) peak at an altitude of 4778 m above sea level. For the first time in 1898 it was discovered that some human skeletal remains were lying there in and around the lake. Since then the lake is known as a mystery lake. This small lake is surrounded by steep rock walls about 25 metre high. After a walk from Vedni the sudden appearance of this small lake surprises the trekker. The mystery of these skeletal remains is yet to be solved. Though Prof D.N. Majumdar, J.B. Griffin and D. Majumdar worked hard to solve the mystery, but all efforts went in vain. This lake has a special significance for Goddess Nanda and her devotees. Little ahead is Homkundikhal (Rounti-Saddle), which is used as the base camp by mountaineers attempting Trisul south face.

n) *Vasukital*

A beautiful Himalayan tarn, with an area of half sq km is situated at an altitude of 4884 m. It is 6 kms from Kedarnath temple the track goes from the left side of the temple. Though the approach is very difficult and unmarked but the very glimpses of the lake mitigates physical lethargy and rejuvenates the body, mind and soul. Initial trek of 4 kms is steep, then half a km is gradual, but the

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last stretch is most difficult due to scattered boulders. In all, the route is not very clear and one has to cross two passes also. In the last leg of the walk one has to cover a descent of at least 1.5 kms. The scenery around is most enchanting. The lake is surrounded by small hillocks of Alpine meadows, full of colourful flowers prominent among them being brahma-kamal and neel-kamal. Most of the brahma kamals are brought down for offerings at Kedarnath temple. Songanga, a tributary of Mandakini, originates from the lake. The camp site is extremely beautiful and calm. It is said that mythological Vasuki nag (snake) used to live here.

o) *Chaurabarital*

The track to this small and beautiful fresh water lake is 4 kms ahead of Kedarnath temple on the right bank of river Mandakini. There isn't any thing like maintained track. The walk on the moraines of Chaurabari glacier, which is punctuated by pretty Alpine flowers, is difficult but interesting. The snout of the glacier has to be left behind to reach the lake, which is just on the back of a knife-like ridge, made by the lateral moraines of the glacier. The hidden quality of the lake might be responsible for giving it this name. However, due to the immersion of Gandhiji's ashes into the lake it has assumed a new name Gandhi Sarovar. Melting of snow on the higher region is the source of the lake water. Apart from these lakes both the districts are having many more small lakes and springs.

Natural Springs

Waterfalls and springs are very common sights in Garhwal in general and upper Garhwal in particular. The sight of many large and beautiful waterfalls and springs on the road sides are enjoyable while travelling by road in Uttarkashi and Chamoli districts. But the presence of hot water springs in the snowy heights is the most fascinating phenomenon of nature. All the Char Dhams are blessed with this gift of nature. These hot springs are at or around the Char Dhams.

For Gangotri, the hot water springs are on the way at Ganganani, for Yamunotri at Yamunotri, for Badrinath at Badrinath and for Kedarnath at Gaurikund. Prior to worship bathing is necessary

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and this becomes a pleasant exercise due to these hot water springs in such high and cold areas. For tired trekkers and mountaineers these springs are a boon in disguise. Bath in sulpher water removes the tiredness of the body.

At Yamunotri boiling water comes out from the pot holes of solid rocks (Divyashila). In Suryakund, rice or potatoes tied in a cloth are dipped for a few minutes for cooking and thereafter it is usually taken back home as "prasad". The temperature of the water in Suryakund is 180°C. Ganganani, once a popular halting place of age-old pilgrimage of Gangotri has now lost its religious importance due to the introduction of motor transport to Gangotri. Ganganani is 43 kms from Uttarkashi on way to Gangotri. The construction of small pools for bathing and swimming was luring the crowd back to Ganganani. But earthquake of 20th October 1991 disturbed the source. One of the unknown hot water springs of Uttarkashi district is 5 kms from Dodital in the dense forest. This too, can be developed as an attraction for the trekkers.

Gaurikund which is 13 kms down below Kedarnath, on the right bank of Mandakini has two hot water springs (53°C and 23°C). These springs are real boon for the weary travellers and pilgrims. For the comfort of travellers a regular bathing place has been constructed here. Another important hot spring is just below Badrinath temple. This thermal spring having a temperature of 49°C provides hot water bath to the pilgrims and tourists before Badrish worship. A regular bath with tolerable hot water (mixed with cold water from the cold water spring) is provided round the clock.

Two interesting thermal springs are located at Reni, 6 kms ahead of Tapovan (Joshimath) on the bank of river Dhauli. It is generally visited by the trekkers and mountaineers to the region. All these thermal springs can be developed as recreational and health resorts.

2.2.4 Wildlife

Wilderness is a necessity said, John Muir, the sage of Sierra. Thoreau thought the health of civilization needed the tonic of the wild. Since time immemorial man got inspiration from nature in improving his ways of living and maintaining coordination with

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surroundings. Frank Smythe found that the hills had a capacity for welding into a harmonious whole the physical, mental and spiritual qualities of man. Such are the qualities of wilderness that man forgets his sorrows, pains and miseries with its closeness. As one passes through hills, dales and mountains, the journey becomes a discovery of new things and self realisation.

The Hindu sages of the ancient times believed in the healing touch of nature and regarded communion with nature as spiritually elevating. Technical advancement and modernisation are forcing man to think and respect nature as a cure to all kinds of ills that afflict man today. Hence the varied flora and fauna of the region are becoming one of the main attractions for the tourists.

Flora

As per the report of Hill Area Development Board (1987-88) the total area of Chamoli and Uttarkashi districts was 906 and 801 thousand hectares respectively. Out of this the area under forest cover was 527 and 710 thousand hectares.[14] The remaining area was under cultivation. The great chunk of uncultivated area can be utilised for wildlife tourism and recreation without disturbing the eco-system.

On the basis of characteristics, the forest of the region is divided into four zones.

a) The central zone
b) The northern zone
c) The northern bushland
d) Alpine meadows

a) *Central Zone*

The central zone is thickly populated and cultivated, hence it is more or less devoid of forests and other wildlife. Wherever there is forest it is dominated by chir pine (*Pinus longifolia* syn. *P. roxburghii*). Other species which frequently occur with chir are amla (*Emblica officinalis*), sandan (*Ougeinia dalbergioides*), timla (*Ficus roxburghii*) and kath-mahwa (*Glochidion velutinum*). But in upper reaches of this zone, blue pine (*P. wallichiana*) often associated with banj, oak and maple is found in abundance. This vegetation is commonly found in both the districts. Moru or tilong (*Quer-*

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cus dilatata) is found between 1800 and 2750 m. The kharsu (*Quercus semecarpifolia*) is found between 2200 and 3000 m, Burans (*Rhododendron arbo-reum*), the queen of hills is widely distributed in all oak forests mixed with blue pine. The red flowers of burans change the forest scenery from February to April. Ringal (hill bamboo) an undergrowth companion of banj and kharsu, makes the forest dense. Rich epiphytic moss, lichen and ferns decor the forest most. Panger (Himalayan horse chestnut), silver fir (*Abies pindrow*), spruce (*Picea morinda*), locally known as raga and rausala are also found in this altitude.

b) *Northern Zone*

This zone is also full of varied flora. In fact it has the richest vegetation of Garhwal. Himalayan oak still dominates the scene, others are burans (*Rhododendron arboreum*), silver fir (*Abies pindrow*), spruce (*Picea smithiana*), cypress (*Cypressus Tarulosa*) and blue pine etc. When oak starts disappearing Pangar (*Aesculus indica*), kabasi (*Corylus jacquemontii*), kanjula (*Acer caesium*) and ringal (*A. jaunsarensis*) take its place. Ferns, lichen and creepers are abundantly found here. Forest of Har-ki-doon, Tuni, Dodital, Belakkhal, Dingad valley, Yamunotri, Gangotri, Kedar Ganga valley, Wan, Nandprayag, Kedarnath valley, Tungnath, Rudranath, Ukhimath, Deoriatal, Valley of Flowers and outer Nanda Devi sanctuary etc are the finest examples of this forest. Fir and spruce are densely found from Rudraprayag to Pipalkoti and Ramni to Dibrugheta.

Botanical Survey of India and other reports revealed that more than 200 species of Gymnosperms; 180 species of Angiosperms grow in the Nanda Devi National Park.[15] Mr. Batten was surprised to see the oaks of Niti and deodars of Malari valley. Rhododendron dwarfs of Ruinsaratal, Dodital (Uttarkashi district), Kuari pass, Tungnath and Rudranath (Chamoli district) with crimson and mauve flowers change the scenery entirely. Marco Pallis praised the vegetation of Bhagirathi valley.

c) *Northern Bushland*

This is the zone where the tree line ends up with bushes and difficult inhospitable terrain starts along with cold climate (annual

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precipitation less than 25 cm). But nature's bounty of rich flora attracts people to make a visit. The flora is xerophytic shrubs and bushes scattered thinly all over the earth surface.

Safed Purcha (*Artemisia maritima*), Kala Purcha (*A. scarorum*) and Jhaura (*Caragana pygmaea*) occur in between 2750 and 3700 m above sea level. There are three species of Juniper (*Juniper pseudosabina, Juniper communis and Juniper macropoda*). Juniper is the most affected flora by human and animal interference at this altitude. It is easy to ignite even when it is green. Dimar (*Caragana pygmaea*) is common found flora of this zone. Rhododendron bush also appears in this zone. Being aromatic it is used for making joss sticks.

The most suitable time to visit this zone is from mid June to the first week of September.

d) *Alpine Meadows*

Meadows of Garhwal are situated in between the bush line and the permanent snow line. Here the land is most inhospitable and rugged, but full of Himalayan grasses, herbs and floral plants. Scanty juniper and rhododendron bushes are found here too. Though altitudinally the Alpine pasture land varies from place to place due to physiographical conditions, but they are generally found in between 3500 and 4900 m above the sea level in Garhwal. It snows there in the month of November and it remains a frozen hostile waste land for six months. Later from mid April snow starts melting. With brief rain showers the waste land gets transformed into a miraculous valley of flowers.

Garhwal is famous for its Alpine meadows. Most popular are Har-ki-doon, Ruinsara tal, Dayara, Belakkhal, Kush-Kalyani, Tapovan, Nandanvan in Uttarkashi district and Auli, Gorson Auli, Vedni, Bistola, Kuari pass, Madamaheshwar, Rudranath, Tungnath, Valley of Flowers, Hemkund-Lokpal, Nanda Devi outer sanctuary and Manpai in Chamoli district. These beautiful calm and quite places provide a unique and fine retreat, an eden of flowers to the visitors of scorched plains. Highly nutritious mamla grass locally known as buggi, grows in these high pasture lands. Hence these pastures are locally known as Bugyals. These grasses bear highly aromatic flowers. Most common among them are Potentialla (three

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colours—crimson red, yellow and orange) and blue Primula deliculata. Smythe identified nine spices of Primula in Garhwal,[16] Sexifraga, Forget-me-not, Iris, Marsh-Merry gold, Yellow Butter-Cups, Pink Geranium, Blue Gentian, Prime rose, Poppy, Rosace, Deep red Thymes, Yellow stripped Slipper Orchid, Blue Delphinium, Aster, Daise, Red Straw Berry, Sedum, Anemone, Brahm Kamal, Globe flower, Himalayan yellow Poppy, Polygonum Affine, Himalayan Lily, Himalayan Rose, Cobra Lily, Jacob's Ladder, Fritilaries and dark purple Monks hood etc. These flowers are densely distributed in the meadows of Garhwal. Mr. Holdsworth does some candid speaking when he says, "Let me confess at the outset that as the botanist of the Kamet expedition of 1931, I am an imposter. My qualifications for the post are wholly inadequate, and my opportunities for doing the job thoroughly were naturally rather meagre."[17] These flowers are generally found in most of the pastures in Garhwal Himalaya. These flowers in glacial valleys, moraines, under rocks, ledges and crannies present the views of most beautiful rock gardens of earth. August-September is the most suitable time to visit these Alpine pasture lands. End of September is the seeding time, the frost and snow later burn all the flora of this heavenly region and ends the floral life. These pastures are the real Himalayan holiday resorts with lots of things to explore and enjoy.

Fauna

Northern Garhwal is rich in varied fauna. Here the fauna adapts itself to enjoy the ecological factors like cold, aridity, snow cover and humidity with the increase in altitude. The fine adaptability is clearly visible in their body cover (hair/feather and colour) that provides resistance to insolation and radiation. The forest of pine, oak, blue pine, rhododendron, cypress, fir, spruce, birch, juniper, ringal and the Alpine meadows provide an ideal habitat for wild animals and singing birds.

Animals

The most commonly found animals are langur, red monkey, brown bear, black bear, common fox, leopard, snow leopard, barking dear, sambar, musk dear, serow, porcupine, tahr etc. Butterflies

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of different colours and sizes and beetles are also found in this area.

Avifauna

The higher region of Garhwal is full of colourful singing avifauna. Most commonly found are—Himalayan whistling thrush, Himalayan golden crest, western variegated laughing thrush, monal and koklas pheasant, partridge, Himalayan golden eagle, Himalayan bearded vulture and snow partridge etc.

Fish

Apart from rich mammal and avifauna, higher Himalayan water bodies of Garhwal are rich in aquatic life also. The river and streams abound in fishes. Most common are mahaseer (Indian salmon), Indian trout and goonch (fresh water shark), kalabans, pharkata and chilwa. Alaknanda, Mandakini, Pinder, Bhagirathi and Yamuna are the ideal habitat for fresh water fish but rivers and lakes of upper Garhwal abound in the Himalayan trout.

In 1910 the rulers of Garhwal made fish hatcheries, one in Kalyani (Uttarkashi district) and the other at Tilwari (Chamoli district) by procuring a consignment of eyed ova of brown trout (*Salmo trutta fario*) from Kashmir. In 1951 these hatcheries were transferred to Animal Husbandry Department of U.P., but the condition of these hatcheries started deteriorating and the stock of fish went down. Now there is a separate Directorate of Fisheries and both the hatcheries come under the Assistant Director of Fisheries, Uttarkashi. In Talwari the original stock of trout perished which was replaced by the seed of rainbow trout (*Salmotrutta gairdner*).

For flora and fauna some areas of these two districts of Garhwal are very famous.

2.2.5 National Parks

Parks are becoming very popular now a days, when life has become very much mechanical and lethargic in the cities. Park resources—flora and fauna are very much in demand list of the tourists. Parks are part of large tourism recreation conservation system. Tourism development also is part of a large tourism recreation conservation system. It depends as much on the identification

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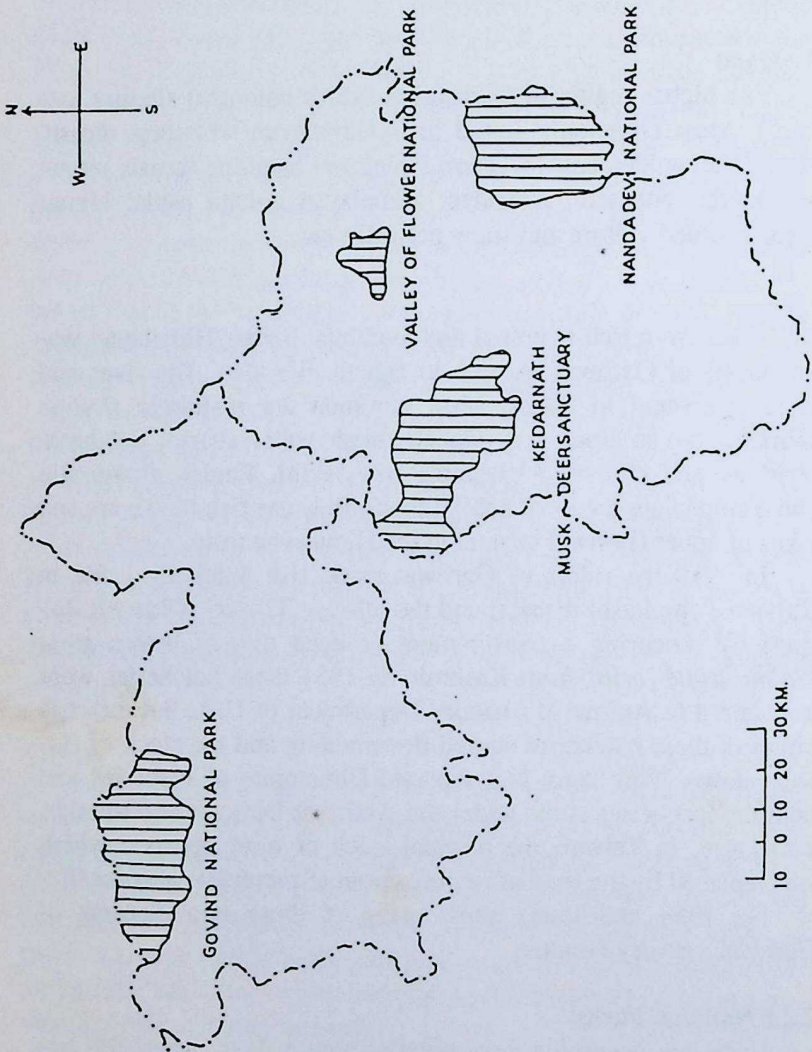

Fig. 5. National parks and wildlife sanctuaries.

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and protection of natural and cultural resources as it does upon the building facilities. According to Indian Board of Wildlife, "A national park is an area dedicated by state for all time to conserve natural and historical objects of national significance and wildlife and where provision is made for enjoyment of the same by the public."[18]

There are two national parks in Chamoli district. Valley of flowers and Nanda Devi are world famous for their beauty. Figure 5 shows the national parks and sanctuaries of the study area.

a) *Govind National Park*

In 1955 Upper Tons valley was declared as Govind Pashu Vihar (sanctuary), after the name of Pandit Govind Ballabh Pant. Later in 1990, it was notified as national park, comprising the whole of Supin range in the Tons forest division. The area of 953 sq kms is a thick forest of pine, blue pine, oak, rhododendron, deodar, fir, spruce, cypress, rhododendron dwarf, birch and Alpine herbs and shrubs. The inhabiting animals are—common fox, langur, wild cat, red monkey, Himalayan black bear, brown bear, barking deer, sambar, musk deer, Indian marten, leopard, serow, thar, marmot and snow leopard. I still remember the small beautiful cub of snow leopard that we caught on the trek to Ruinsaratal (on the right side of Har-ki-Doon valley) in 1982 during an outing with adventure course trainees of NIM, Uttarkashi. It was so small that we fed it milk with bottle, but later we left it near its den. Snow leopard is declared as an endangered species, and a plan to protect the snow leopard is reportedly on the anvil.

Game Birds: Most of the birds found here are rare and pretty. Among the game birds monal pheasant, westerned horned pheasant, cheer pheasant, peura partridge, khalij pheasant, chukor and black partridge are the main attractions. At higher altitudes red billed and yellow billed chough, snow pigeon, Himalayan nut-cracker (specially in blue pine forest) are the main attractions for bird watchers. But at moderate heights red-billed babbler, blue magpie, whistling thrush, red-billed scarlet, minivet, verditer flycatcher and grey-winged black bird (common in oak forest, perhaps the finest of all the Himalayan song birds) are commonly found.

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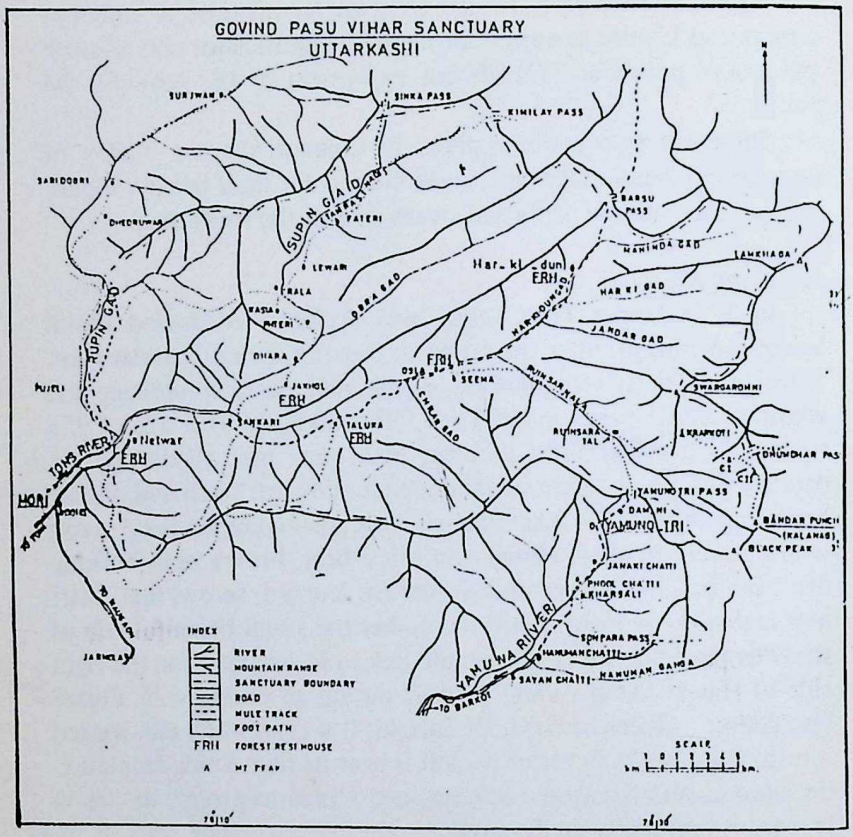

Fig. 6. Govind Pashu Vihar sanctuary, Uttarkashi.

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Luxuriant Har-ki-doon valley has a perfect backdrop of snowy mountain peaks and dense forest of pine, deodar and other coniferous that meet the vast stretches of meadows. It is said that Bhog Datt, a great warrior of Mahabharata who fought against the Pandavas, resided here. It is therefore, that Duryodhana, the eldest of the Kaurava is worshipped in Tons valley. The best time to visit is from June to September. The altitude variation in the park is from 1400 to 6100 m. From May to August one can see the wild flora of the park in full bloom. Marshall described the wilderness as, "Timeless dimensionless, all encompassing dynamic uncluttered by the artist's conception and a form of beauty that gratifies all the senses."[19] But with the arrival of winter (cold, frost and wind) most of the flora burns and all the pastures get tanned. A cloudless sky gives an opportunity to enjoy the wide scenery of white wealth of the nature. Figure 6 depicts the Govind National Park.

b) *Valley of Flowers National Park*

Bhyunder valley widely known as the Valley of Flowers in eastern Garhwal, was first discovered by the famous mountaineer Mr. Frank Smythe, the leader of successful Kamet expedition, in 1931. He was so much fascinated with this bio-climatically rich valley that he later returned and collected many species of flowers. He has recorded his thrill in his book 'The Valley of Flowers'. This 8 kms long and 2 kms wide valley is full of colourful flowers of different sizes, shapes and aroma. The surroundings are unique. On the north of this valley stand cliffs 2000 m high and on the north-east is the beautiful mountain Rataban, that catches the attention of the visitors and gives perfection to the scenery. Smythe rightly says, ". . . . no photographer can do justice to the grandeur and ethereal beauty of such scene."[20] The wide stretches of northern slopes are decorated with silver birch punctuated with Alpine meadows, the southern slopes are carpeted with lush green grass and colourful flowers. In fact the valley lies in between Bhyunder-Kantha pass (5090 m) and Khuntakhal pass (4425 m), from Baminidhar (3560 m) to the base of Rataban peak (6166 m). The entire valley falls into the Bhyunder-Ganga catchment area and covers Hemkund-Lokpal, Pushpavati valley and its tributaries.

The scenery and flora changes from Ghangaria (a halting place

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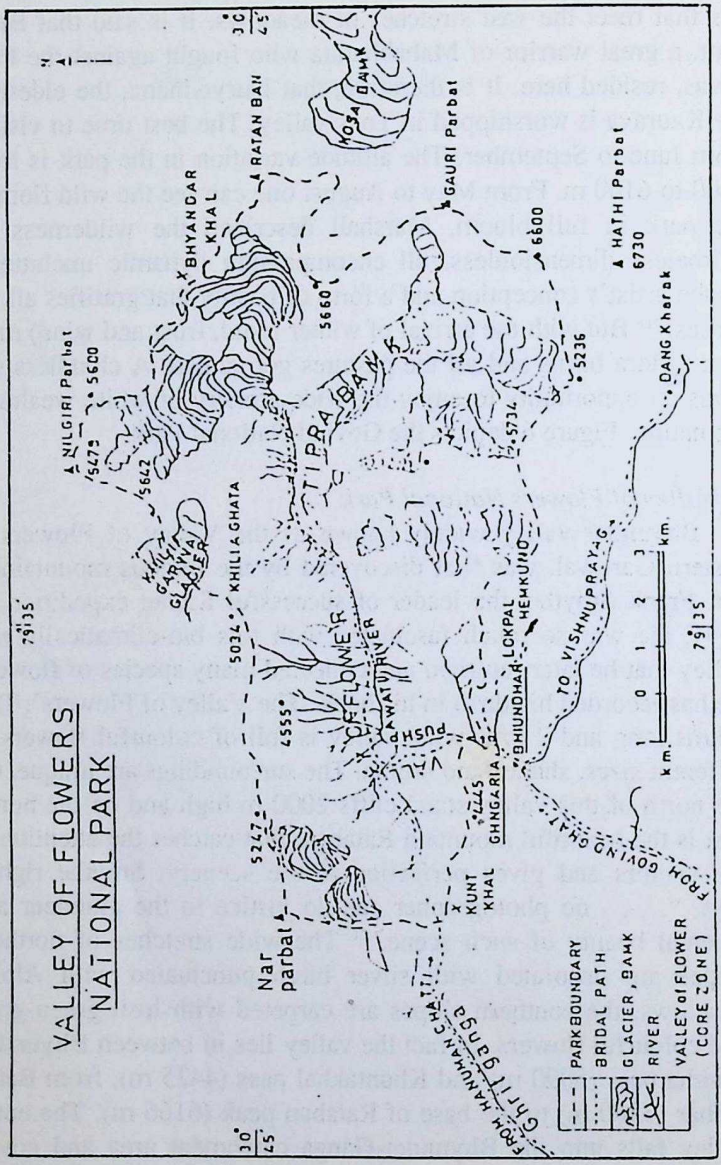

Fig. 7. Valley of Flowers national park.

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enroute to Valley of Flowers). It is 5 kms from Bhyunder village. From here the real ascent starts with terrific natural beauty. It is a very beautiful valley with magnificent forest and tumbling streams.

In 1981 the valley was declared as one of the Himalayan national parks. The 3.5 kms trek from Ghangaria to the Valley of Flowers is most enchanting. The forest of silver birch merges into the green stretches, decorated with colourful flowers, mud, boulders, rivulets, rocky cliffs and white mountains.

Some of the flowers of the valley are Potentilla (*P. argyrophylla*) in red, yellow and orange colours, *Primula minutissima, Primula nivalis, Primula stuartii,* Anemone (*A. obtusiloba*), Gentian (*Gentian stipitata*), Androsace (*A. rotundifolia*), monk's hood (*Aconitum heterophyllum*), purple ipomea (*Ipomea purpurea*), globe-flower (*Trolluis acaulis*), musk thistle (*Carduus nutans*), cream yellow Himalayan lily (*Lilium oxypetalum*), Himalayan rose (*Rosa macrophylla*), snowy Lindelofia (*Lindelofia spectabilis*), cobra lily (*Arisaema costatum*), Jacob's ladder (*Polemonium caeruleum*), Himalayan yellow poppy (*Meconopsis paniculata*), Wallich's blue poppy (*Meconopsis wallichii*), Saxifraga (*S. flagellaris*) and Iris (*I. kumaonensis*). The nature's eden changes its hue and colour weekly, fortnightly and some times daily. The life-span of flowers varies from few days to months. In the month of May snow tends to melt and seed sprouting begins, June watches the small plants with buds and few flowers, July witnesses the blossom but August is lucky enough to see the valley in prime youth and colours. So are the lucky visitors of August as they watch the youthful valley. From September onwards the colours and youth of the coloured valley starts fading and the arrival of dry autumn heralds the decay and decomposition. October comes with frost and cold and tans the valley and again it becomes an isolated, desolate pocket of earth. The most suitable time to visit the valley is mid August. Figure 7 depicts Valley of Flowers national park.

c) *Kedarnath Musk Deer Park*

Kedarnath valley is very rich in its natural wealth. The forest of this valley is a paradise on such a high altitude. Musk deer is the most sought-after animal of the valley. With a view to protect this endangered animal this valley was declared as musk deer sanctuary

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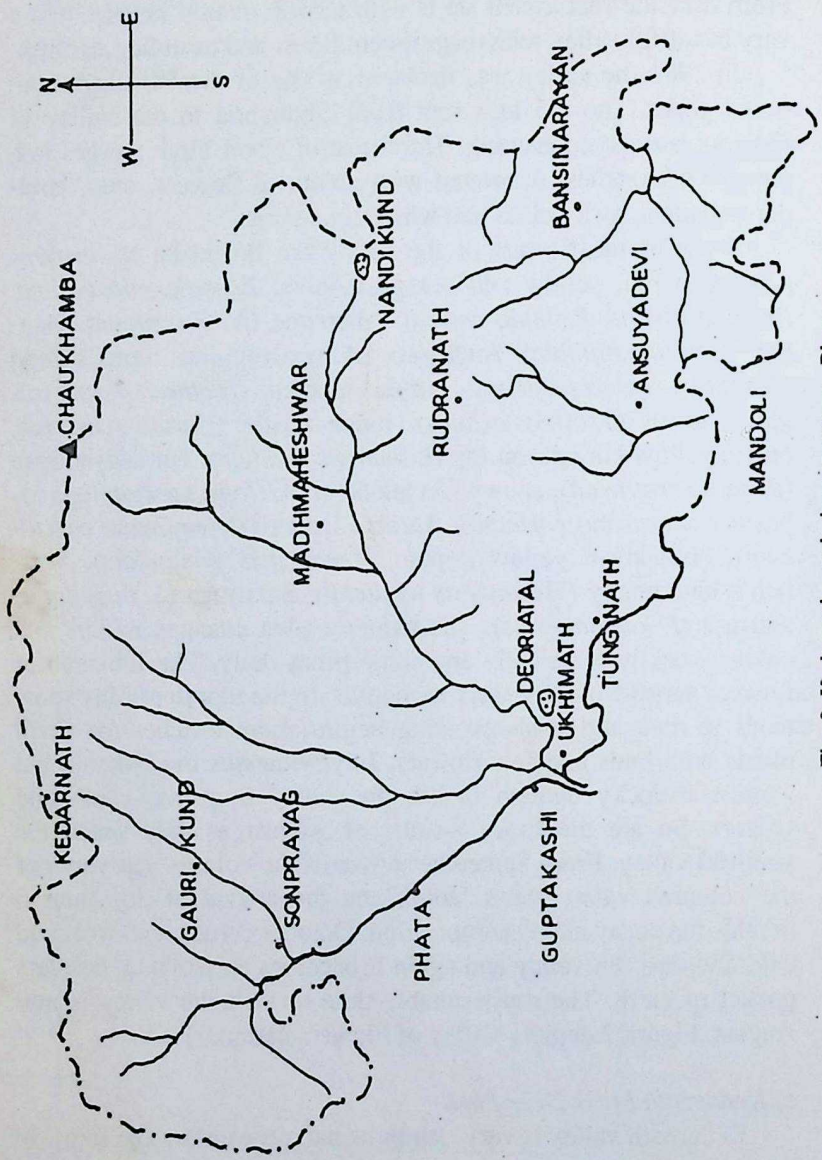

Fig. 8. Kedarnath musk deer sanctuary: Plan.

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in 1972. The area of the sanctuary is 967.2 sq kms and the entire sanctuary lies in Kedarnath forest division. Therefore it is named as Kedarnath musk deer sanctuary. Kedarnath shrine and other old temples—Trijuginarayan, Madmaheshwar, Tungnath, Rudranath and Ansuya Devi are also situated within the bounds of this sanctuary. The Chamoli-Ukhimath motor road skirts this sanctuary from the south and serves as an excellent approach road for the sanctuary. Figure 8 shows Kedarnath musk deer park.

Flora: The beautiful thick forests along with road and the valley are the main attraction. Here pine grows upto 2000 m but moist hill sides are clad with oak. Above this, the forest mainly comprises deodar, fir, spruce, thuner, cypress and blue pine. Among broad leaved trees rhododendron, walnut, oak and horse chest-nut are the main species. But birch occurs after coniferous forest. Above this lies rhododendron dwarfs, juniper and other thorny bushes. In between the bush line and permanent snow line lies the pasture land which abounds in a number of medicinal and other plants.

Fauna: Due to varying climate and vegetation a large number of wild animals are found all over the sanctuary. Upto 3000 m above the sea level, barking deer, sambar, wild cat, panther, black bear, ghoral and wild boar are found. Above 3000 m Himalayan thar, bharal, snow leopard, musk dear, serow, ghoral and Himalayan brown bear are found.

Avifauna: Among avifauna khalij, koklas and monal pheasants, snow partridge are fairly common. Hunting and poaching have created a critical condition for the birds.

Monal pheasant and musk deer are declared as endangered species. A drive from Ukhimath to Mandal is most fascinating. A man who has ever been to that area can never forget that dense mixed forest of oak, blue pine, cypress, fir, rhododendron and birch. One shivers even in the month of June due to cold. The beautiful earth slopes of Chopta can be used for snow ski in winter. The forest rest house and GMVN's bungalows are best located.

d) *Nanda Devi National Park*

Nanda Devi national park is situated at 30° 16' - 30° 32' N and 79° 49' - 80° 2' E with an area of 800 sq kms. This park is drained by the Rishi Ganga and is clustered between the glaciers of Gan-

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gotri and Milam. Nanda Devi is the second highest peak of India. Altitude variation of the sanctuary is from 2100 to 7817 m. The whole area is known as Nanda Devi sanctuary, a name first bestowed on it by Mr. Ruttledge of Everest fame. Eric Shipton and Bill Tillman took years to get into the sanctuary through Rishi Ganga. Finally in 1934 they got success in penetrating the sanctuary and reached at the height of 6227 m. Later in 1936 H. Tillman and N.E. Odell of Anglo-American expedition got success in reaching the summit. It was the cherished dream of world mountaineers. In 1939 at the Instance of Shipton and Tillman the 182.63 sq kms of Nanda Devi basin was declared as Nanda Devi Wild Life sanctuary.* The cup-shaped sanctuary is demarcated by a huge amphitheatre of mountain range, offering ice walls, corniced ridges and almost seventy named and unnamed peaks. The sanctuary has got two horse shoe shapes, one outer sanctuary and the other inner sanctuary. The outer sanctuary is a dense mixed forest which has Alpine pasture lands adorned by beautiful seasonal colourful flowers. The inner sanctuary includes a number of high peaks and major glacier system. It consists of Ramini, Changabang and north Rishi glacier in the north and south Nand Devi glacier, south Rishi, Trisul, Bethartoli, Rounti and Nanda Ghunti glacier in the south. Each glacier system gives rise to streams and all the streams end in Rishi stream. Ultimately this enters the awe-some lower gorge guarded by overhanging cliffs, and skirts Lata peak to merge with the Dhauli Ganga near Reni village. Some of the well known peaks from west to east are Dunagiri (7066 m), Changabang (6864 m), Kalanka (6931 m), Nanda Devi East (7434 m) and Nanda Devi (7817 m). From east to west Nanda Kot (6631 m), Devasthan (6678 m), Maiktoli (6805 m), Mrigthuni (6855 m), Trisul (7120 m) and Bethartoli (6352 m). The area is segmented by a series of parallel ridges and the most important is Devasthan-Rishikot ridge, which divides the Rishi gorge at the base of Nanda Devi and separates the inner sanctuary from the outer sanctuary. The northern wall from Lata to Rishi pahar is the divide between the Nanda Devi basin and the Dhauli Ganga. Figure 9 gives the detailed picture of Nanda Devi national park.

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*Vide U.P. Forest G.O. Notification No. 1439/XIV 28 dated 7.3. 1939.

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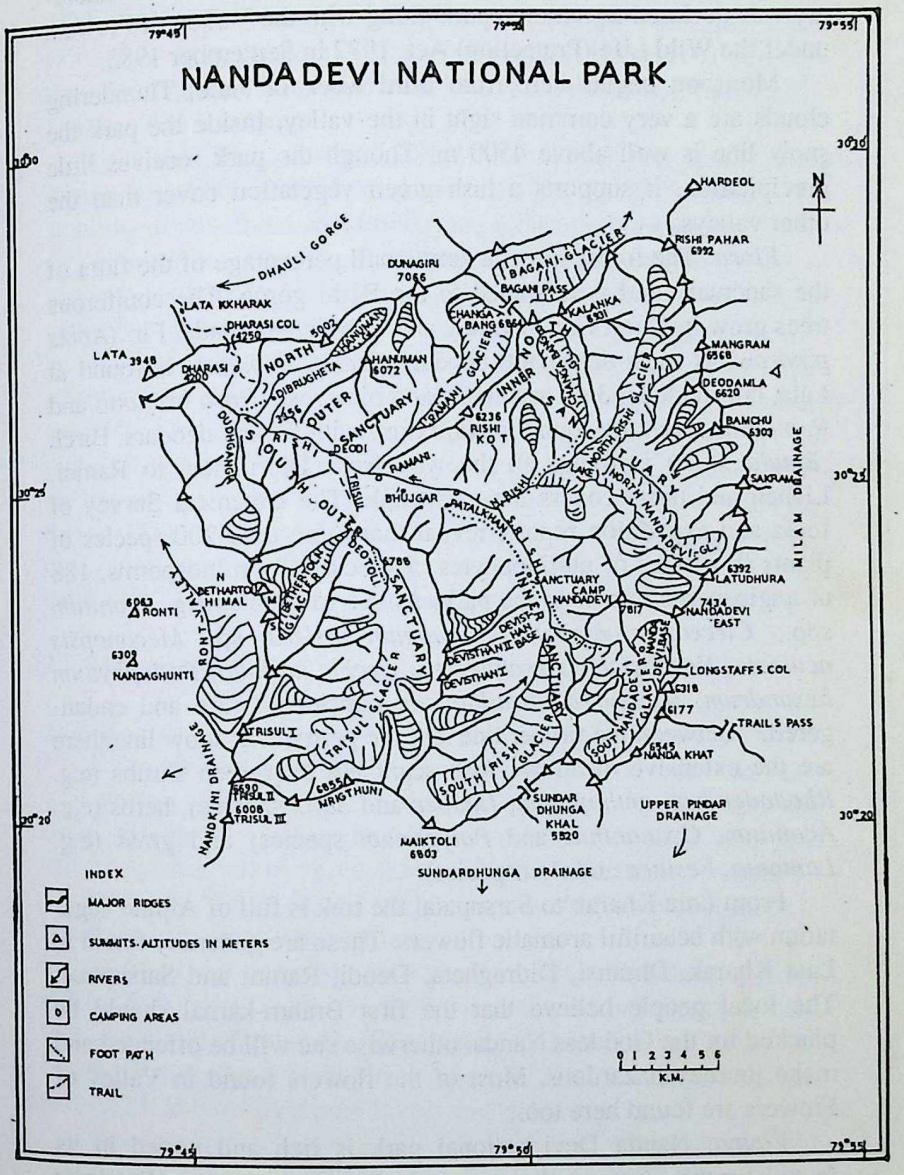

Fig. 9. Nanda Devi national park.

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Due to its beautiful surroundings and rich wildlife, the sanctuary was declared as national park along with the Valley of Flowers under the Wild Life (Protection) Act, 1972 in September 1983.

Monsoon begins here from third week of June. Thundering clouds are a very common sight in the valley. Inside the park the snow line is well above 4500 m. Though the park receives little precipitation, it supports a lush green vegetation cover than the other valleys.

Flora: The forest forms a very small percentage of the flora of the sanctuary and is restricted to the Rishi gorge. The coniferous trees grow in Dudh Ganga valley and Dibrugheta glade. Fir (*Abies pindrow*) is most dominant, deodar (*Cedrus deodara*) is found at Lata, but rhododendron and white and pink rose (*Rosa brunonii* and *R. macrophylla*) are found in admixture with fir and deodars. Birch (*Betula utilis*) is found all the way from Dibrugheta to Ramni. Lichen and moss covers the tree trunk. The Botanical Survey of India and expedition reports reveal that more than 200 species of plants (8 species of pteridophytes, 5 species of gymnosperms, 188 of angiosperms) grow in the park. About 15 species e.g. *Aconitum* spp., *Circeaster agrestis*, *Epipogum lislera* sp, *Meconopsis aculeata*, *Nardostachys grandiflora*, *Orchis latifolia*, *Podophyllum hexandrum*, *Saussurea obvallata* are considered rare and endangered.[21] Between the timber line and the permanent snow line there are the extensive meadows with scant but evergreen shrubs (e.g. *Rhododendron anthopogon*, *Juniper* and *Salix* species), herbs (e.g. *Aconitum*, *Cyananthus* and *Polygonum* species) and grass (e.g. *Lantonia*, *Festuca* and *Poa* species).

From Lata Kharak to Sarsupatal the trek is full of Alpine vegetation with beautiful aromatic flowers. These are generally found in Lata Kharak, Dhransi, Didrugheta, Deodi, Ramni and Sarsupatal. The local people believe that the first Brahm-kamal should be plucked for the Goddess Nanda, otherwise she will be offended and make journey hazardous. Most of the flowers found in Valley of Flowers are found here too.

Fauna: Nanda Devi national park is rich and varied in its faunal wealth. Among the mammals found are langur (*Presbytis entellus schislaceus*), Himalayan black bear (*Ursus arctos*), yellow bellied weasel (*Mutela kathiah*), leopard (*Panther pardus*), snow

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leopard (*Panther uncia*), serow (*Capricornis sumatraensis*), Himalayan tahr (*Hemitragus jemlahicus*), bharal or blue sheep (*Pseudois nayaur*), goral (*Nemorhaedus goral*), musk deer (*Moschus moschiferus*), mouse hare (*Ochotona roylei*) and Indian field mouse (*Mus boodeega*).

Avifauna: Very rich and varied birds live in this park. Lamba during his study in 1981-84 found 80 birds of 27 families. Outstanding among them are Himalayan golden eagle (*Aquila chrysaetos hodgsoni*), black eagle (*Ictinaetus malayaensis*), Himalayan bearded vulture or lammergeier (*Gypaetus barbatus*), snow partridge (*lerwa leswa*), Himalayan snow cock (*Tetraogallus Himalayensis*), chukor partridge (*Alectoris chukor*), Himalayan monal (*Lophophorous impejanus*), koklas pheasant (*Ceriornis macrolophus*), west Himalayan snow pigeon (*Columba leuconota*), Indian spotted dove (*Strèptopelia chinensis suratenses*), Himalayan great barbat (*Megalaima virens marshallorum*), western variegated laughing thrush (*Trochalopteron variegatum similie*), Himalayan whistling thrush (*Myiophoneus caeruleus temminckii*) and western red headed tit (*Aegithaliscus concinnus redalei*).[22]

2.2.6 Interesting Treks

a) *Kuari Pass*

Kuari pass, at an altitude of 4268 m above the sea level, is a well known trek in Chamoli district. Lord Curzon went upto the Kuari pass in 1905. So the trek is known as Curzon road. This pass can be approached by three sides—(1) Tapovan (near Joshimath)-Khulara and Kuari pass, (2) Joshimath-Auli-Gorson-Gailgarh-Kuari, and (3) Ghat-Ramni-Kuari.

Kuari pass is one of the best vantage point of this area. It gives extensive panoramic views of the Himalaya of north-east and the vast valley of south-east. The peaks to be seen are Nilkanth, Kamet, Nanda Devi, Dunagiri, Bethartoli, Hati Parbat and Devasthan etc. It is liked by nature lovers and trekkers both.

b) *Auli*

Auli attracts tourists in summer as well as in winter. In summer the pasture land is most inviting with green carpet and colourful

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flowers. It is a beautiful sight for camping. This Alpine meadow is 8 kms from Joshimath along a jeepable road and provides panoramic view of Nanda Devi, Kamet, Dunagiri and a chain of unnamed peaks. Newly constructed ropeway from Joshimath to Auli is the longest in Asia.

Winter imparts an enticing colour and charm to the place. From January to March the slopes are usually covered with thick snow about 3 m deep. The stretch is approximately 3 kms with altitude variation of around 500 m. It is one of the finest ski-slopes of India. Skiing courses of varying duration are run by Garhwal Mandal Vikas Nigam. Equipment, board and lodging facilities and transport are provided by them.

c) *Dayara Pasture*

This beautiful valley of varied flowers, is situated in Uttarkashi district. It is 18 kms from Bhatwari in the thick forest. Its gently sloping hill sides with many small lakes lure one away from mundane worldliness. The whole valley smiles in summer with pretty aromatic flowers of different sizes and shapes. This area can be utilized and developed as a snow-ski resort.

d) *Gaumukh, Tapovan and Nandanvan*

This beautiful glacial region (Gangotri, Tapovan and Nandanvan) can be developed as the first glacial park of the country. This trek area is most suitable for adventure lovers, rock climbers, and mountaineers. It has got a variety of flora and fauna also. For reaching Tapovan or Nandanvan one has to walk from Gangotri.

Gangotri	-	Chirbasa (9 kms)
Chirbasa	-	Bhojbasa (5 kms)
Bhojbasa	-	Gaumukh (4 kms)
Gaumukh	-	Tapovan (3 kms)
Gaumukh	-	Nandanvan (6 kms) or
Tapovan	-	Nandanvan (3 kms)

From Gangotri to Bhojbasa the walk amid the forest of pine, blue pine, birch and juniper is easy. Heards of bharal (blue mountain goats) are often spotted on the mountain ridges. The trek is really enthralling. At Bhojbasa accommodation is provided by

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GMVN, Lalbaba and few others, but beyond Gaumukh there is no man-made shelter, except open camp sites and rock caves. The view of Manda, Shivling, Sudarshan, Bhagirathi group of peaks are superb.

From Gaumukh one can go to Tapovan or Nandanvan. For Tapovan one has to walk 3 kms over the Gangotri glacier. Tapovan is a beautiful camp site at an altitude of 4463 m above sea level.

From Tapovan one has to walk 3 kms for reaching Nandanvan. The trek is difficult due to moraine walk and falling stones but the camp site at Nandanvan is superb.

e) *Nagini Devi*

Though there is not any marked track for Nagini Devi but a local guide can take the tourist up to the destination without getting lost. This area was known as Bailkhila Parbat in the past due to Rishi Bailkhila's meditation in the region. The route to be followed is Chaurangikhal trek upto Sankarna dhar. From here the snow view is fantastic. The track passes through dense oak forest and other rich flora. The temple of Nagini Devi has recently been renovated. It is dedicated to an *avtar* of Goddess Parvati and can be developed for the trekkers.

f) *Har-ki-Doon*

Har-ki-Doon is a beautiful small valley at an altitude of 3566 m in Tons valley of Uttarkashi district. The track starts from Netwar and passes through Sankri, Taluka and Osla villages. This valley has a unique characteristic as Kauravas are worshipped here. Village Osla has a Duryodhan temple. The track passes through beautiful thick virgin forest and a part of the area comes under Govind Pashu Vihar. The smallest trek distance is 42 kms. The scenery is beautiful. The views of Swargarohini, Banderpunch and Kalanag are fascinating.

2.2.7 Climate

Climate is of particular significance to tourism. Higher and middle Himalayan regions of Garhwal have got many pockets which fall in a salubrious climatic zone. In fact, tourist market of hills totally depends upon the weather and climate. The months of

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May and June attract maximum number of tourists and pilgrims to Badri-Kedar, Gangotri-Yamunotri and higher reaches of Garhwal Himalaya, but from the first week of July this number starts declining. The increase and decrease is due to weather and climatic variation in the region. Climate is the most single important factor which has a close bearing on tourism in mountains. It plays a most vital role in making an area a tourist destination.

The parameters of climate are sunshine hours, cloud-cover, temperature, wind velocity, vapour pressure and precipitation. Fine weather with warmth and sunshine is one of the most important attractions of a tourist area. Good weather is particularly an important ingredient in holidaying. It can make or mar a holiday. It is doubtful that the Alpine winter resorts of France, Switzerland and Austria would be as popular as they are if the resort were clouded and sunless. All the hill stations of India (Shimla, Darjeeling, Nainital and Mussoorie) were developed by the Britishers because of their climatic assets. Upper Garhwal is varied in climate. Each valley basin and ridge creates its own subclimate. Location, altitude and wind velocity affects the climate a lot. Southern slopes are sunnier and receive more insolation than the northern slopes. "Of all the geographic influences to which man is subjected in his life upon the earth, climate seems to be the most potent.''[23] Unfortunately no new survey of hill stations has been undertaken after the Britishers. Therefore over-crowding is one of the biggest problems of our hill stations in the summer season. The need of the hour is to explore new hill stations or climatic resorts.

Altitudinally Garhwal can be divided into four climatic zones.

1. Warm (Upto - 1300 m)
2. Temperature (1300 - 2100 m)
3. Cold (2100 - 3030 m)
4. Glacial (above 3400 m)

The area under study falls in between 2100 to 7817 m. All the hill stations of India are located in temperature zone. In Garhwal Gwaldam, Joshimath, Kalimath, Uttarkashi, Barkot etc come in the same zone. In these places summer months are cool and pleasant but winter months are cold with mist and frost. The temperature from April to October is 15.5°C to 26°C with no cold, but from

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October to February it is always very cold due to snow fall. Areas between 2200 and 3030 m elevation enjoy cold temperate climate. Here the summer mean temperature is 4.4°C to 10°C. The winter temperature is below freezing point and snow fall is frequent.

In both the districts tourist potentials are located at an altitude above 3000 m and have Alpine climate. Incidently all the Char Dhams Badri, Kedar, Gangotri and Yamunotri and most of the treks are located in this zone, but higher altitude treks and snow-covered peaks are in glacial zone. In alpine zone during summers the days are cool but the nights are colder. Winter is severely cold spreading over a period of seven months. Here snow fall begins in the last week of September and lasts till the beginning of April. Within these months the temperature becomes precarious. During this period the region becomes white with snow and isolated. All the highlanders (Bhotias of Niti and Mana valley) come down to lower altitudes with their herds. Generally the region remains open for the tourists only for five months and the low line areas for six-seven months. But like Auli, many places have the potential for winter tourism (snow-skiing, mountaineering and trekking).

Rainfall is another factor that affects the climate. The summer monsoon approaches the submountain tract around the middle of June and the higher reaches get it by the third week of June. There, monsoon showers relieve man, earth and its vegetation cover from scorching sun. In higher Himalaya the climate almost remains beyond the influence of the periodical rains. Northwards the air and soil become drier and arid. At comparatively lower altitude, the landscape starts becoming greener and colourful with rains. But heavy rains result in landslides and road blockages. This creates the biggest problem for the pilgrims and tourists.

However, with the showers of rains the season of trekkers begins as they go upto Har-ki-Doon, Govind national park, Ruinsaratal, Dodital, Tapovan, Nandanvan, Kalindi Khal, Valley of Flowers, Tungnath, Rudranath, Madmaheshwar, Kalpeshwar, Urgam, Kuari and Roopkund etc.

As a whole, the best time for the tourist and pilgrim is from April to June and September to the first week of October, but for a trekker July to September is the most suitable time. November and April are the driest months of Garhwal, whereas October is the sun-

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niest month with clear sky and maximum visibility. Profit largely in tourism depends on good climate. Adventure tourism also depends upon favourable weather conditions. Most of the mountaineers who fail on the mountains, rightly attribute it to bad weather. In fact climate and weather play a vital role in deciding the tourist potential of destination area. The climate of Garhwal is conducive to the development of summer resorts and winter sports. Usually the winter days are sunny, warm and pleasant and most suitable for snow-skiing and winter climbing.

2.3 Religious Attractions

Badri, Kedar, Gangotri and Yamunotri are the Char Dhams for Hindu pilgrimage. Their faith in "Divine Charm" is unquestionably proved by annual pilgrimage to Badrinath, Kedarnath, Gangotri and Yamunotri. Followers of Buddhism also are full of reverence for this part of the country and have selected this for certain religious rites. Sikhs have their Hemkund gurdwara near Lokpal mandir. It is said that Guru Govind Singh meditated here. The other sacred and important places of Hindu pilgrimage are other Badris and Kedars. But construction of roads to Char Dhams isolated these places from national crowd. Most of them now retain their local importance only. But with the advent of mountain tourism these places are getting priority. Every rock, mountain, river, plant and animal symbolises one or the other God or Goddess. Few snow-covered peaks are said to be the permanent abode of Gods, as Banderpunch of Hanuman, Shivling of Shiva, Trisul as trident of Shiva and Nanda Devi of Parvati.

2.3.1 Pilgrimage

Earlier in history a pilgrimage meant toil and pain, therefore, common saying was, "It is the test of tolerance not of expression". But today travelling for religious reason and pleasant holidaying goes together. Himalaya has age-old history of culture, civilization, religion and pilgrimage. Old and prominent among them are Kols, Dravidians, Kirats, Kinnars, Nags and Khasas. These tribes came here and intermixed with the local people and became part of Hindu culture and religion. We can safely deduce from the Purans

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that the Aryans had little knowledge of Himalaya but later Vedic literature shows that Ganga and Yamuna and their sources were treated as most sacred. Since then, the area became the integral part of Hindu religion and pilgrimage. During Brahmanical period source of Ganga and Yamuna gathered more religious importance. Around 700 B.C. (the period of Taittiriya Aranyaka) a new school of Hindu philosophy named, 'path of knowledge' came into existence. For meditation they looked for remote, quiet, pure and pleasant natural surroundings and landed up in Garhwal. They found the river banks and mountain tops most suitable for meditation and self-realisation. Most probably this was the period when the banks of Ganga, Yamuna, Mandakini, Nandakini, Bhagirathi and Alaknanda were selected for meditation and prayers. So the sages were the first pilgrims to the region, who later on composed highly philosophical and religious scriptures. Ved Vyas composed and compiled the Mahabharata and Purans on the banks of river Sarasvati near Mana village. Gargacharya, the great astronomer trained his pupil in the science of astronomy here. The Grammarian Varuchi visited Garhwal Himalaya and by propitiating Mahadeva obtained material for Paniniya-grammer. Even in medieval period (1000 A.D. to 1815 A.D.) a fairly large number of people took pilgrimage to Badri-Kedar. Garhwal contains no level land to suit agricultural pursuits. Nature fashioned the land in a way that offers attraction to men inclined to lead a spiritual life and live in a spiritually charged atmosphere.

Since ages the inner urge to travel to Garhwal remained different to different people. Some got attracted by peace and tranquility of the region, some are here for meditation and, by and large, a number of pilgrims come to pay homage to their ancestors. Later Brahminical rituals got revived and became commercialised as priesthood. This gave way to the establishment of Tirth Yatra of Panda system. This Panda system exists even today. Yatra to Himalaya is treated as most sacred in Hindu religion. In Skand Puran, it is said that he who thinks of Himachal is greater than he who performs all worship in Kashi. Himalaya, Ganga and the religious atmosphere of the region have not only influenced the Hindus but the impression has gone deep down into the European mind too. It is said that here the Gods lived and saints and sages meditated.

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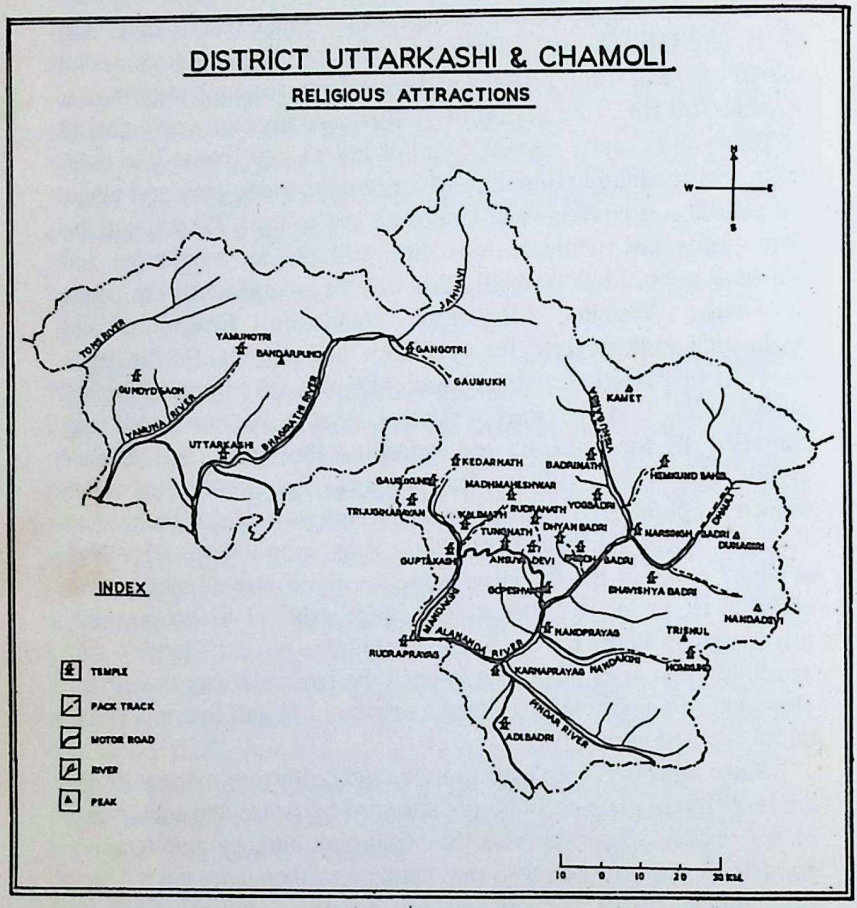

Fig. 10. Religious attractions.

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Therefore Shiva said to Parvati in Kedar-Khand of Skand Puran, "There is no place on this earth which can compare to this holy land''. It is said that Lord Krishna himself meditated on Gandhmadan Parbat in Badrinath.

Pilgrimage to Garhwal is still there. For the pilgrimage of Garhwal, apart from four major attractions (Char Dhams) there are Sapt Badri, Panch Kedar and confluences of holy rivers. All these are depicted in Fig. 10.

a) *Yamunotri*

Yamunotri is situated at an altitude of 3292 m above sea level. It is 226 kms from Rishikesh on the left bank of river Yamuna. River Yamuna emerges from Kalindi Parbat in the Banderpunch range, hence known as Kalindi too. At Yamunotri there is a temple of river Yamuna, the daughter of Surya, and is always associated with Lord Krishna. The temple is surrounded by trees. Its location on an avalanch-prone area is the reason of its reconstruction after every few years. But it is co-related with one of the saying locally popular, which says that due to the fickle mindedness of the river the temple is reconstructed after every few years. Close to the temple there are hot water springs and the water gushes out of the rock cavities at boiling point.

The trek to Yamunotri is most fascinating. Wayside views of Kala Nag and Banderpunch are exotic. The first European to visit this place was Mr. Fraser (1815-1818), but Capt. Skinner went upto the source of Yamuna. He was deeply impressed by the flora, fauna, civilization and religion of the region. The pandas of Yamunotri come from the neighbouring village Kharsali (Yamunotri is 6 kms from here) and the entire administration of the temple is in their hands.

b) *Gangotri*

An expanding settlement of Gangotri is situated at an average altitude of 3140 m above the sea level amidst giant pine, oak and deodar trees, at the confluence of Bhagirathi and Kedar Ganga. The 20 feet high temple of Ganga was constructed by a Nepali general in the 19th century and the pandas of Mukhwa were appointed as pujaris by him. Mythology says that sage Bhagirath meditated here

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for bringing Ganga down on earth. Geological studies say that ages ago the entire stretch of land from Gangotri to Gaumukh was covered with glacier and Ganga emerged here. But slowly the melting of glacier resulted in receding the snout back to Gaumukh, around 19 kms north-east from Gangotri.

Gangotri, once most suitable for meditation due to its sublime atmosphere, quietitude and natural surroundings, is becoming crowded day by day with many upcoming buildings and visitors. Age-old arduous pilgrimage is changing due to a motorable road and unplanned haphazard growth of the area. Therefore this area needs special attention. The mighty bear-peaked cliffs, snow-covered mountains, roaring rivers and their confluences present most dreaded but clam scenery. Fraser narrated his experiences in these words, ". . . . it is not so simple, to many surely not very possible to convey an adequate idea of the stern and rugged majesty of some scenes, to paint their lovely desertness or to describe their undefinable sensation of reverence and dread that steals over the mind while contemplating the death-like ghastly calm that is shed over them."[24] Near the temple, there is a wide rock, known as Bhagirath Shila. Very short distance from here Bhagirathi falls into Surya-kund and later into Gauri-kund. The fall of Bhagirathi at these two points is worth seeing.

The icon of Ganga is taken down to Mukhwa in winters and only few sadhus and watchmen remain there. The snow-covered peaks present unforgettable scenery. In the words of Marco Pallis, "Peaks rose in every side in wildest confusion; not in Sikkim have I seen any thing like the mountain scenery round Gangotri . . . . but it is useless to try to describe the grandeur of the scene; there are perfections about which the only eloquence is silence."[25] Beauty of the area is praised by every visitor to the region. Skinner says, "I can never retain my enthusiasm, when I write of the grandeur of mountain scenery; but to return to the beauties of the Gangas."[26]

But the unplanned expansion of pilgrimage and tourism is going to create catastrophe in near future. Therefore it is essential to systematize the crowd and buildings in and around Gangotri.

c) *Gaumukh*

The snout of Gangotri glacier from where Bhagirathi emerges

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is known as Gaumukh. This 25 kms long and 4 kms wide glacier is spread at an altitude of 4000 m above sea level. The glacier has its origin on the western slopes of Satopanth group of peaks. It is also connected with the glaciers along the northern slopes of Kedarnath peak. Therefore, it is said that three great places of pilgrimages Gangotri, Badrinath and Kedarnath are all within a few kms of horizontal distance from each other.

It is said that long time back the snout of glacier was quite down below. Mr. Auden of the Geological Survey of India stated that the glacier must have receded by 2400 ft during the last century alone and in the earlier times it might have descended to at least Gangotri and may be even as far down as Jangla.[27] Now it is 19 kms north-east of Gangotri. This track to Gaumukh passes through a beautiful forest of blue pine (Chirbasa) and birch (Bhojbasa) trees. This track was constructed in 1967-68, though before this also people visited Gaumukh. Many smaller bamaks join Gangotri glacier. In all, the glacier is punctuated with beautiful snow-covered peaks and presents most enchanting scenery. Six kms upstream from Gaumukh are broad glacial terraces of Tapovan and Nandanvan. Lateral moraines are formed there above the glacier. Huge boulders, pebbles roll down casually. Gaumukh is approximately 40 m high ice wall. The snout is changing shape frequently. From Gaumukh to Gangotri temple the Bhagirathi valley is wide and U-shaped with a surface area of 200 sq kms. Gangotri glacier is a complex glacier system, containing more than 20 cubic kms of ice. This ice may be more than a thousand years old.[28] This region can be a pilgrimage for tourists, adventurers and scientists.

d) *Sapt Badris*

Among seven Badris, Badrinath is the most famous shrine of Lord Vishnu. Others are Bhavishbadri 17 kms from Joshimath towards Malari, Yogbadri at Pandukeshwar, Dhyan Badri at Urgam, Narsing Badri at Joshimath, Bridh Badri (about 7 kms short of Joshimath on the main Rishikesh-Badrinath motor route) at Animath and Adibadri (17 kms from Karanprayag on the Gwaldam route). There are remains of 16 small temples at Adi Badri.

Before the advent of vehicular traffic these Badris were visited by the devout Hindus. Metalled road upto Badrinath diverted the

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pilgrims towards Badri Vishal, leaving others isolated and by-passed.

e) *Badrinath*

It is located in the renowned Badrikashrama of Nar and Narayan Rishis, at an altitude of 3122 m above sea level. From later Vedic records Badrinath is considered to hold supreme place in Hindu pilgrimage. It is learnt that as early as several centuries before the Christian era the shrine of Badrinath was celebrated as seat of learning and as the abode of holy men. Fifty feet high temple of Badrinath is situated in the heart of the township with roaring Alaknanda below, milky Nilkanth behind and Mana valley on the north side. The idol of Lord Badrinath is made of black stone (Shaligram). The opening day is normally found during the last week of April or the first week of May. The Taptakund near the temple would have been the cause of establishing this sanctum sanctorum on this height. These thermal springs give thick smoke or steam of a strong sulphurous smell which cures skin diseases. In consonance with the tradition founded by Adi Shankaracharya, even today the priest of the temple comes from south India (Kerala). Brahma-kapal is situated at the right bank of Alaknanda to the north of Badrinath temple. In Hindu religion after death, the ceremonies are performed here for the peace of the departed souls (ancestors).

f) *Panch Kedar*

There are five famous shrines of Lord Shiva in Garhwal. These are Kedarnath, Tungnath, Rudranath, Madmaheshwar and Kalpeshwar. In old tradition of pilgrimage, all the Kedars were visited by the pilgrims, but the introduction of motor transport in Garhwal popularised the pilgrimage to Kedarnath leaving the other four Kedars isolated. The latest trend in tourism (adventure tourism) is diverting the crowd towards these isolated natural and age-old pilgrimage centres.

g) *Kedarnath*

It is one of the twelve Jyotir Lings of Lord Shiva. Scriptures say that this is the place where Lord Shiva took refuge while flee-

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ing from the Pandavas in the form of a bull. Hard pressed as he was, He dived into the ground leaving his hinder parts on the surface, for adoration afterwards. It is believed that Pandavas are the reputed founders of the five temples of Lord Shiva.

This holy temple is built on a ridge, with grey stones down below the Kedarnath peak at an altitude of 3583 m. Just behind the temple approximately 1.5 kms away, is a small but stable snout of Chaurabare glacier from where river Mandakini emerges. The temple opens either in the last week of April or the first week of May, and the propitious day for the reopening of the temple for devotees is astrologically calculated on the day of Mahashivratri by the priests of the temple of Ukhimath. Symbolic images are brought down to Ukhimath in winters for worship. The valley of Kedarnath is most fascinating. The Alpine flowers of different hue and colours steal the heart of visitors.

The other Kedars are the places where four other portions of fleeing Lord Shiva are worshipped in the following order. The arms at Tungnath, the face at Rudranath, the belly at Madmaheshwar and the hair and head at Kalpeshwar.

h) *Tungnath*

Tungnath is situated at an altitude of 3680 m above sea level and 5 kms away from Chopta in picturesque surroundings of Alpine meadows. This Swayambhu Lingam is the highest Hindu shrine in Garhwal. The Alpine flowers of Tungnath valley deserve highest appreciation from the mortals. Mokumath is the winter seat of Tungnath.

i) *Rudranath*

This natural rock temple of Lord Shiva is situated at an altitude of 3559 m above sea level amidst thick forest of rhododendron dwarfs and Alpine pastures. Here Shiva is worshipped as Nilkanth Mahadev. Glittering snow-covered peaks of Trisul, Nanda Devi and Devasthan present a picturesque view. In winters the symbolic image of Lord Shiva comes down to Gopeshwar. Scattered idols of Gods and Godesses are the result of the avalanches and their fury around in olden times. Every year a fair is held here on "Srawan Purnima" (July/August) and is largely attended by the local people.

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The extensive pasture all around is a place where one can forget ownself. Besides the main temple, there are many small temples.

j) *Kalpeshwar*

Kalpeshwar temple is situated amidst the thick forests of Urgam valley. The entrance to the rock temple is through a rock cave. It is 24 kms from Joshimath (14 kms upto Helang is motorable and the remaining 10 kms makes a fascinating trek).

k) *Madmaheshwar*

This Shiva temple is situated 29 kms north-east of Guptakashi at an altitude of 3497 m. The trek begins from Guptakashi and passes via Kalimath in most beautiful surroundings, leaving mountain peaks like Chaukhamba, Nilkanth and Kedarnath in foreground. The entire trek is rich in natural wealth with monal pheasants and kasturi deer.

l) *Panch Prayags*

Since olden days Panch Prayags of Garhwal have been of great religious importance and were very frequently visited by the pilgrims. But introduction of motor transport made these prayags isolated. Though hundreds of rivers and streams meet Alaknanda but the following five confluences are of great religious importance for Hindus, though today they are of local importance only. Most of the Garhwalis assemble there for bathing on Makar Sankaranti, Uttarayani, Basant Panchmi and Ram Naumi.

1. Deoprayag (Alaknanda + Bhagirathi)
2. Rudraprayag (Alaknanda + Mandakini)
3. Nandprayag (Alaknanda + Nandakini)
4. Karanprayag (Alaknanda + Pindar)
5. Vishnuprayag (Alaknanda + ~~Saraswat~~i)

Dauli gange

2.4 Social Attractions

Simple people, traditional societies, customs, folk-lores, fair and festivals of country side also attract number of tourists, the following section describes various social attractions in detail.

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2.4.1 Important Towns

Apart from these places, some townships are also of great touristic importance. Some of the major towns are described below.

a) *Uttarkashi*

Situated on the right bank of Bhagirathi and surrounded by Varuna and Asi rivers at an altitude of 1558 m, this small township formed a part of Tehri district till 1962. Later separate district was formed and Uttarkashi became the headquarters of Uttarkashi district. It abounds in natural beauty and temples. Among them the temple of Lord Vishwanath is the most famous and important. The other important temples are of Parashuram, Kali, Annapurna, Ekadash-Rudra and Kuteti Devi. It is believed that in the second millennium of Kaliyug, Kashi will get submerged into the waters and Uttarkashi will replace it. In Skand Puran it is named as Varunavrata.

Vishwanath temple has got a magnificent Trisul, 26 ft high with a base of 8′9″ and a top of 1′ in circumference. The ancient name of Uttarkashi is Barahat. On the occasion of Makasankaranti a week-long fair is held here. In olden days it was a religio-cultural fair, but today it is just a trade fair.

The Nehru Institute of Mountaineering (NIM) is also one of the attractions of Uttarkashi. In fact it is the school where mountain lovers get training and confidence for adventure sports. Every year a large number of young men and women take training of mountaineering here. This institute was started on 14th November 1965, after the great mountain lover Jawaharlal Nehru.

b) *Bhairoghati*

Bhairoghati is situated at the confluences of Jadh Ganga (Jahnvi) and Bhagirathi at an altitude of 2579 m above sea level. Here the tumultuous Bhagirathi flows deep down into the narrow gorge and creates the disastrous music of Bhairo. Before June 1985, access to Gangotri was a tough job as one had to walk from Lanka to Bhairoghati, 3 kms amidst a thick deodar forest and roaring Bhagirathi. However, the thrill is gone in the wake of motorable access to Gangotri. Mr. Hodgson found it most aweful looking place ". . . . never seen any thing in the hills to be compared with

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the scenery around Bhairoghati for horror and extravagance."[29] Towering rocks, vertical walls, whistling woods and tumultuous Bhagirathi give the impression of horrifying deserted fort that stupefies the visitor. Mr. Fraser found this haunting natural beauty beyond description.

c) *Gupta Kashi*

178 kms from Rishikesh on the Kedarnath route at an altitude of 1479 m above sea level is a scenic and legendry town of Guptakashi. Here the landscape is rewarding and incredible. According to the legends, after killing Kauravas in the battle of Mahabharata at Kurukshetra, Pandavas wanted emancipation from the curse of killing kinsmen and went to Kashi to propitiate Lord Shiva. Shiva unwilling for darshan went to Himalaya, but Pandavas followed him in cognito. Therefore the place is known as Guptakashi. There are two ancient temples one of Chandersekhar Mahadev dedicated to Vishwanath and the other is Ardh-Narishwar. In front of Chandersekhar Mahadev is a small pond known as Manikarnika-kund.

d) *Kalimath*

The famous Sidhpith of north, Kalimath is situated on the bank of Kali river. It can be approached from Ukhimath as well as from Guptakashi. There are a number of temples dedicated to Shiva and Shakti. These temple attract large crowds every year on Maha Ashtami fair (September/October).

e) *Gopeshwar*

A small township of pleasing climate is situated at an altitude of 1308 m. It is the headquarter of Chamoli district and most of the district offices are located here. The main attraction is the massive temple of Shiva. It has got a huge trident standing in the courtyard bearing some inscription of 6th or 7th century. Several broken idols scattered around the temple explain the theory of cluster of temples in ancient times. The residents of Gopeshwar and the neighbouring villages are ecologically very aware. They are the initiators of Chipko movement.

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2.4.2 Tribal Villages

Uttarkashi and Chamoli districts are situated on the Indo-Tibetan international boundary. Extreme northern villages of both the districts are basically tribal. Their way of life itself attracts the attention of the tourists. Few villages are getting exposure or are getting a feel of the modern city life as reflected in the conduct of the tourists. Some of the major tribal villages are described below.

a) *Netwar, Osla and Taluka*

The western part of Uttarkashi is known as Fateh Parbat and is separated from Himachal Pradesh by the Tons river. Here in the backdrop of snowy mountain peaks and dense forest human life is very much varied. In Tons valley, the villages—Netwar, Taluka and Osla are maintaining their identity as the descendents of the Kauravas. Even today, they worship Duryodhana. Netwar is 69 kms from Navgaon by motorable road. From Netwar jeepable road approaches Sankari, which is 12 kms away. From here a trek of 11 kms takes one to Taluka and another 11 kms to Osla. The women of the village wear costumes which resemble with the costumes of the Himachali women.

The temple of Osla is intricately carved wooden structure, where Kauravas are honoured. The trek to Har-ki-Doon and Ruinsara tal passes through these villages, but the life of these villages is least affected by either material prosperity or the culture of tourists. Natural beauty, culture, costume, tradition and typical way of life of the region are the attractions for the tourists. Polyandry, the most controversial characteristic of the region, has disappeared fully today.

b) *Kharsali*

Kharsali, a small village, is 6 kms before Yamunotri on the Hanumanchatti-Yamunotri route. It is the native village of Yamunotri Pandas. This thickly populated village has a unique Shani Devta temple. Idols are kept on the fourth storey of the temple. Access to this is through a staircase made out of canoe-shaped logs. During winters a Bhog murti of Yamuna is kept in this temple. Old Shani temple reveals Buddhist influence, as manifested by its leopard-perched top and stupa-like formation on the left. The view of

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Yamunotri peaks is superb from here. Though most of the men are working in plains, this sleepy town even today is far away from the development activities of the world.

c) *Harsil*

This beautiful small town of Harsil is situated on the confluence of Jalandari gad and Bhagirathi river. The scenery is unparalleled with its great sentinels—Matri and Kailash mountains. On the right side of the town there is beautiful peak of Shrikantha behind which lies Kedarnath and to the rear is Banderpunch. On the other side is Yamunotri, all around snow-capped peaks. It might be the beauty of the place which attracted a Britisher, named George Wilson, who settled here over one hundred years ago and married a local girl. Even today his house, known as Wilson hut, constructed in 1864, tells the tale of Wilson's love for the area. He was the first person who introduced apples to this region and transported timber through rivers. Adjacent to Harsil is a small Buddhist village, Bagori.

d) *Nilang and Jadhang*

These were the villages adjacent to Tibetan border and the passes to Tibet were named after them. Nilang valley is known as Chongsa by the Huniyas (Tibetans). The two passes of Nilang are Thagala (to the west) and Tsang-Chokla (to the east). There was a third pass from Raithal, but it was seldom followed. After the 1962 Indo-China war, all these passes were closed and trade abandoned. This ruined the nomadic traders and their trade. These villages are naked, barren and rocky and surrounded by mountain ranges of perpetual snow line, where except buggi grass nothing grows. Long before the outbreak of war, the nomads (Jads) frequented the area and lived in the villages. Now the villages are deserted and uninhabited. Due to its sensitive location no tourist is allowed to visit the area, but fortunate are those shepherds who are allowed with their herds of goats and sheep. Some of these highlanders are known as Nitwal.

e) *Mana*

On the left bank of Vishnu Ganga and 3 kms north of Badri-

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nath, there is a village named Mana, at an altitude of 3200 m. This isolated border village of Chamoli district has got beautiful surroundings. The villagers are closely associated with the activities of the Badrinath temple and annual worship of Mata Murti. These people also lost their traditional trade with Tibet. Here the villagers are known as Marchhas. From Mana village to Mana pass the Sarasvati valley is most rugged with glacial moraine, debris, boulders and cold climate. Mana pass (5651 m) was known as Chirbitla or Dangrila in Tibetan language. Closure of trade with Tibet forced the highlanders to migrate down to the plains for livelihood. There is a rock cave near Mana, known as Vyas Gupha where Ved Vyas is said to have composed the Mahabharata.

Dhauli Ganga valley too has Bhotia villages. Tapovan is the first pasture land of Dhauli valley and last village of Khadwals. The valley becomes narrow and the altitude rises rapidly. In utter isolation and solitude the Dhauli flows with great noise. Largest number of Bhotias live in this valley. Kosa is the last village of Tolchas. Twelve kms ahead of the village is Kosa Bamak. Further on the left bank of Dhauli, Malari is the first village of Marchhas.

f) *Malari, Bampa and Gamsali*

Here the narrow V-shaped valley changes into U-shaped wide valleys. The valleys are covered with the forest of Kharsu (*Quercus semicarpifolia*), rose (wild), yew, horse chestnut, alder, poplar and ilm. Narrow gorges and swift flowing Dhauli present most wild but frightening scenery. Beautiful Marchha hamlets in such surroundings multiply the beauty many a times. Villages of Malari, Bampa and Gamsali are summer houses of nomads. Deodar, birch and fir trees are scattered all around these villages. Bhotias drink a special tea prepared from fir (Raga) tree bark.

g) *Niti*

Niti is the last village of Indo-Tibetan border of Dhauli valley at an altitude of 5038 m, on the left bank of Dhauli river. The crop is buck wheat and barley, but villagers pay little attention to agriculture. Before 1962 this was the safest and easiest way to enter Tibet (via Niti pass). Moorcroft, Webb and Batten visited Niti pass. Beyond Niti no settlement exists. Ninety nine percent of the Dhauli

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valley is barren and the river flows deep down into the gorges. Hence the water cannot be utilised by the villagers for any thing. Villages are very much scattered and lie deep down into the narrow valleys. Due to altitude, extreme climate and abandonment of Tibetan trade, these Bhotias and Jads started cultivating jhangora, millet, amaranthus and kauni.

2.4.3 People

The highlanders of Garhwal are known as 'Bhotia'. Though the term Bhotia is used for an ethnic group of Sikkim, Darjeeling and Bhutan, but the Bhotias of Garhwal have absolutely no connection with the eastern Himalayan Bhotias. Garhwal Bhotias are Hindus, a mixture with Tibetan culture due to long trade contact with them.

The Bhotias of Niti and Mana are called Marchhas and Jads. Ganga valley Bhotias are known as Jads. Bhotias have stout, well built figures. They are fair complexioned but much tanned hair and beards curled, small chinky eyes, high cheek bone of the Mangolian touch. They love drinking and are born musicians.[30] They are very tough, honest and born mountaineers. Whosoever visited the Himalaya admired them for their simplicity, friendliness, honesty and hardy qualities. Smythe appreciated their mountaineering ability and adaptability for altitude, "Bhotias of Garhwal think nothing of spending a night out in bad weather at 15000 ft or more under conditions which would make a European quail."[31]

Their women folk is fair in complexion and beautiful. They love wearing chunky silver and gold jewellery. Captain Skinner was very much impressed with their beauty that he couldn't resist himself from saying, ". . . . for had I been a Turk, I might have made at least two additions to my harem."[32] Women spin the wool and make woollen clothes (pathu, baku, thulma, pankhis, chutkas, dan and asanas). They make baskets and mats from cane and wooden vessels from single block of wood.

2.4.4 Fairs and Festivals

The life of highlanders of Garhwal is full of fairs and festivals. They celebrate each and every event of their life very enthusiastically. Most of the fairs and festivals have got religious, cultural,

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economic and environmental importance connected with them. These fairs and festivals are celebrated even in the villages and dizzy heights of Hemkund-Lokpal, Roopkund, Kedartal, Vasukital and Deoriatal. Most of the fairs fall in the months of Chait (March), Bhadon (August/September), Kartic (October/November) and Magh (January).

a) *New Year's Celebrations*

In Garhwal the new year's day falls on the first of Chait (March) hence the celebrations start with this day and get more festive colours due to the coincidence of spring during the same month. Chait Nauratri also falls in this month and Nau Durgas are worshipped.

Nandasthami (in August-September) is celebrated as a fair at many places. Asoj Nauratri (September/October) (9 days) are devoted to the worship of Shakti. This also is celebrated at many places, but the celebrations of Kalimath are famous.

Magh Mela (January) is celebrated with great festivity. In the beginning it was a socio-cultural fair of Jads and Tibetans, but after 1962 this became more as a trade fair than socio-cultural festival. Bathing in the Ganga at Uttarkashi or at any of the five Prayags on Makar or Uttarayani Sankrant is considered very auspicious. The fair lasts for seven days. The women are colourfully dressed and bedecked with chunky ornaments.

On the Basant Panchami (Magh) day people wear yellow colour dresses in honour of spring and celebrate the day with singing and dancing.

b) *Gauchar Mela*

Gauchar Mela had also been started as a religio-cultural fair, but today it is a trade fair. This starts from 14th November and lasts for a week. Women-folk wear colourful dresses and jewellery. Woollen products (carpets, blankets, shawls, chugta and pankhi), ringal (cane) and wooden artifacts are worth buying at the fair.

Malari fair of Niti valley (15th August) was a worth seeing fair in olden days. Today Gauchar and Malari fairs are organised and controlled by the government agencies. These are more associated with commerce, trade and industry of the region. Dancing is a

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common thing in the fairs. Most common dances are Pandav, Mannan, Thariya, Chanchari, Bagdwal and Mukhara etc. Lata village in Chamoli district witnesses the dancing spree from the next day of Besakhi which falls in the month of April.

c) *Nanda Raj-jat Yatra*

On the auspicious day of Nandashtami (August/September) the villagers of Nauti, Simli and Gair gather at Nanda temple to give ceremonious send-off to Goddess Nanda Devi. It is said that Nanda, one of the forms of Shakti, was born in Garhwal and got married to Shiva. Later she was sent by her brethren for Shiva's abode. This is repeated in the Nanda Raj-jat Yatra.

There are two Raj-jat yatras; one is known as small Raj-jat, which is performed after every second year and which ends at Vednikund. The other is known as Bari Raj-jat, which is performed after every twelfth year and is joined by thousands of Garhwalis. On this occasion the Goddess accompanied by her attendant Lord Latu is carried into the snow, beyond Homkundi in Chamoli district. According to local people's belief, every twelfth year a four horned ram is born in Pargana Chandpur, who leads the procession until it is lost in the snows of Nanda Ghunti. Ladies are not allowed to join the procession.

2.5 Other Interesting Spots

a) *Maneri Bhali Project*

Maneri Bhali project is one of the hydro-electric projects on Bhagirathi river, conceived in two phases. First phase was commissioned in 1984 while work on second phase is in progress.

In the first phase a 39 m high and 127 m long concrete gravity dam near Maneri, on the river Bhagirathi is constructed. From here the water is diverted along an 8.6 kms long tunnel towards Uttarkashi and 90 MW of electricity is produced.

The first phase gravity dam and nearby area can be developed as water ski resort.

The second phase is considerably complex and ambitious. There will be a lake (water reservoir) roughly the size of Nainital lake which can be developed as water resort area. Later a tunnel of

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16 kms will take the water to Dharasu where a power station capable of generating 304 MW of electricity is being constructed. Water reservoir can be utilised for the water sports.

b) *Wilson Cottage at Harsil*

Wilson, the British adventurer, constructed an impressive cottage in 1864 near the present-day military encampment in Harsil. He introduced apple growing in the region. He is credited with the construction of old forest rest houses at Harsil, Bhatwari and Dharasu. He also built a 350 ft long suspension bridge over the Jad Ganga river. He was very adventurous man. His cottage tells the tale of fine Garhwal architecture. Efforts are on to convert the Wilson hut into a local museum. Even today one can find the photographs of Wilson and his wife, Gulabi there.

c) *Purola Excavations*

Purola, a small town of Uttarkashi district, has come up recently in lime light due to its archaeological treasure—a massive brick structure of a flying Garuda bird, measuring 28 × 18 m, dating to a period between 2nd century BC to the 2nd century A.D. This township is 19 kms from Naugaon (on the way to Mussoorie-Har-ki-Doon road). Apart from Garuda many more things have come out in the archaeological excavation of Purola conducted by Garhwal University.

d) *Tilari Shahid Smarak*

This historical memorial is situated in Tilari, 2.5 kms from Barkot. Even today Uttarkashi people remember the martyrs of 'Tilari Kand'. This event, which took place on 30th May, 1930 was instrumental in igniting the fires of revolt against the Raja's misrule. It eventually led to the merger of the state with the Indian Union in 1949.

This Tilari Kand had its roots in the forest settlement of 1927-28, which re-drew forest boundaries, encroached on the old and established cattle pastures and caused great resentment among the people. Agitated local people set fire to a part of the forest on May 20, 1930. The district forest officer arrested the leaders, but agitated local people freed them while proceeding towards Tehri.

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Then the army surrounded the protesters and opened fire killing many. So a memorial was constructed at Tilari.

2.6 Conclusion

A chain of mountains, jumble of snow-covered peaks, glaciers, bubbling rivers, tranquil tarns, dense forests, countless vertical and horizontal trails that bring the tourist in contact with glades and gleens, forests and meadows, hills and waterfalls, flora and fauna, culture and customs, folk and folklore, all this manifest in Garhwal. No hill side, no village, no valley, no mountain, no river that's without some sacred memory or which is not associated with some God or Goddess, sage, saint, hero or heroine of mythology. A rare combination of pilgrim's paradise and tourist's treat, such is Garhwal, the elevated world far beyond the imagination of man. It is upto the visitor to discover the arena bristling with possibilities more exciting and more exhilarating.

Natural beauty is scattered in Uttarkashi and Chamoli districts of Garhwal. Partially the resource potentials are identified and publicised but still many areas like Kush-Kalyani, Dingad valley, hot water spring near Dodital, Ruinsaratal and the small lake and campsite area near Dharali village in Uttarkashi district and Urgam valley, Manpai, Aali, Bistola and Kuari pastures need special attention. Some of the restricted areas like Jad Ganga valley, Upper Mana valley, Kalindi Khal and Nanda Devi can prove to be suitable places for adventure tourism.

Rivers and lakes of the region are full of water sports potential. Though few private enthusiasts are exploring the possibilities by introducing rafting and canoeing in Ganga and Tons rivers. U.P. Government has constructed rest houses, maintained camp area and angling facilities, but Deoriatal, Bhaikaltal, Vasukital in Chamoli district and Ruinsaratal and Nachiketa tal in Uttarkashi district are desperately in need of such efforts. Wildlife has been publicised as a resource to tourism but no serious and action-oriented steps have been taken so far for wildlife tourism.

There is no dearth of religious attractions but lack of infrastructure is hampering the crowd towards this region. Socially and culturally the region is very rich but certain socio-cultural attractions

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of the region (fairs, festivals, customs and tradition etc) are dying. such things should be revived to attract the tourists.

To make tourism round the year affair winter avenues have to be explored.

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3
Existing Infrastructure

3.1 Introduction

A combination of facilities, in addition to the natural beauty and unique exotic spectacles are of great help in increasing the attraction of an area. The availability and quality of facilities help in promoting tourist influx. Hence development of tourist facilities like transport system, accommodation, food and lodging, sports, entertainment activities, travel agency, tour operator, art and craft, base camp facilities, adventure tourism equipment and the souvenir industry provide a sound base known as infrastructure for tourist industry. In fact, it is the prerequisite for the development of tourism. It is an industry where apart from commodities and services, the people are greatly in movement. Therefore, the mode of movement and place of movement are very important. If, for instance, a destination is very rich in tourism attraction but lacks infrastructural facilities, tourists will not feel impelled to visit the place. "Attractions and amenities are the very basis of tourism, unless these are present the tourist will not be motivated to go to a particular place."[1]

Pilgrimage, general tourism and adventure tourism, all the three are going together in Garhwal region. Due to the political turmoil of Kashmir and Darjeeling the adventure tourists are being attracted towards Uttarkashi and Chamoli districts. Hence infrastructural facilities are required. Most of the existing infrastructure had been constructed for the sake of pilgrimage and general tourism. Adventure tourism has been introduced recently, but except

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for a few things (GMVN's Mountaineering Division, few travel agencies, few forest bungalows and GMVN's tourist bungalows) nothing special has come up in the name of adventure tourism infrastructure. No doubt that the existing infrastructure of the region has been utilised by the adventure tourists too. Presently general infrastructure in the region is existing upto the road-heads, whereas the adventure tourism infrastructure is generally required from the road-head to the mountain base, wilderness areas, river banks and in the dense forest. It can be said that there is not any thing special in the name of adventure tourism infrastructure in the region. Therefore the general infrastructure of Uttarkashi and Chamoli districts has been classified as following:

1. Travel, transport and roads
2. Accommodation
3. Road-side amenities
4. Entertainment and recreation
5. Travel agencies and tour guides
6. Publicity
7. Shopping
8. Other facilities (water supply, sanitation, energy supply, insurance, post & telegraph and radio communication)
9. Adventure tourism infrastructure

Existing tourist/pilgrim infrastructure of the study area has been shown in Fig. 11.

3.2 Travel, Transport and Roads

Prior to the inception of motor roads Garhwal Himalaya was traversed horizontally and vertically by the indigenous people. Bhotia and Jads used to do trade with Tibet by the yaks and ponies. This travel was out of necessity and not for the sake of fun or frolic. All the ancient pilgrimage and travels to the region were performed on foot due to the religiousness and lack of transport facilities. Great spiritual solace was experienced in braving the hardships and accomplishing the journey. The meaning of pilgrimage was to renounce the material world and sought nature's balmy effect on the troubled souls. Present day pilgrimage is absolutely

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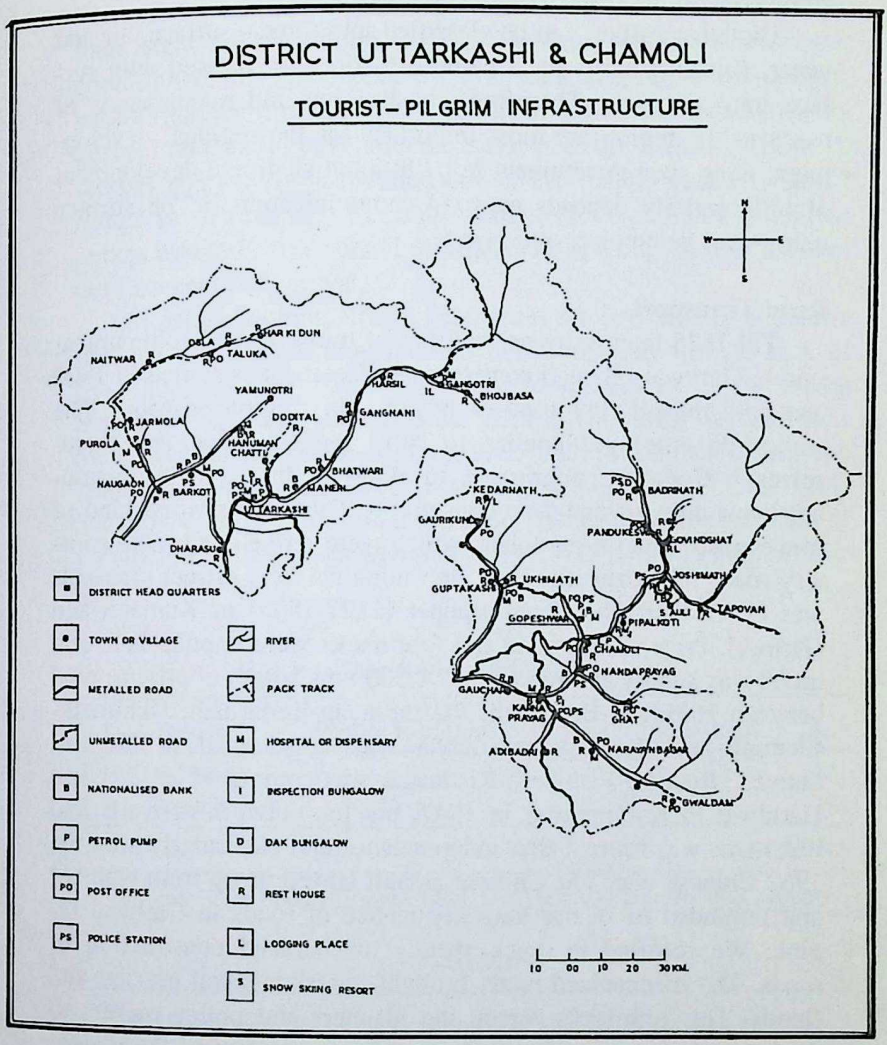

Fig. 11. Tourist/pilgrim infrastructure.

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changed. Today even pilgrims ask for comfortable transport, accommodation, food and medical facilities.

Though transport can be classified into three—surface, air and water. But Uttarkashi and Chamoli districts are blessed with surface transport only. Therefore, construction and maintenance of roads in the region are most important for the regional development. Even state government felt, "In a nut shell, the development of hills entirely depends on road communication."[2] The surface transport is being discussed in detail.

Road Transport

Till 1825 there were no facilities of transport and communication in Garhwal. Though construction of cart roads started in 1800 and only the pilgrims used to traverse this region on foot. "The well-to-do employed coolies to carry their luggage and themselves."[3] Complete pilgrimage to Badri-Kedar, Gangotri-Yamunotri was arduous and time consuming. Those days worst kind of bridle paths were in existence, which were termed as by the courtesy road.[4] The man who took first initiative to construct the roads was G.W. Trail, the Commissioner (1827-1835) of Kumaon and Garhwal. Prior to him mule and foot tracks were popular here and travel was a tardy and risky job. "A 500 kms length of pilgrim road between Haridwar-Badrinath, Rudraprayag-Kedarnath, Ukhimath-Chamoli and Karanprayag-Lobha was constructed at his initiative."[5] Road to Rishikesh-Kirtinagar was completed in 1931 and Haridwar to Karanprayag in 1947, but the network of roads and link roads was formed after independence and particularly after the 1962 Chinese war. The Chinese assault stirred us up from slumber and reminded us of our long negligence of roads in Garhwal region. We resorted to quick speedy mechanized construction of roads. The mechanized roads brought landslides, soil erosion and floods. This ultimately forced the planners and policy makers to think in terms of conserving the fragile eco-system of the region. Though construction of roads made this region accessible, it destroyed the traditional form of pilgrimage to which were allied padyatra, sadavarta, chatti and employment for the local people. Even today the condition of roads is not good, most of the roads are fair weather roads, which get obstructed during the rainy season. The

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State of Uttar Pradesh is backward in respect of roads as compared to other states. The position is particularly bad in the hill region, where the roads are of great importance not only to open the remote areas for tourists but also for the improvement of economic condition of the local people. "For want of rail-communication, without having a network of roads in the hill areas, economic, industrial and social development is not possible there . . . Flow of tourists has also been retarded due to lack of all-weather roads."[6] Better road transport, the only system of communication, is an indispensable infrastructural necessity for opening up new areas of development in Garhwal.

At present comparatively good roads are in existence and more link roads are under construction, but even today there is lack of free flow of tourist traffic on these roads. Table 3.1 shows the length of roads in the study area. District Uttarkashi has 826 kms metalled road and 694 kms unmetalled road. In Chamoli district the length of metalled road is 1078 kms and unmetalled 911 kms. Table 3.2 shows the length of metalled road/100 sq kms area and/lakh of population. These roads were under UPPWD (Uttar Pradesh Public

TABLE 3.1

Roads in Uttarkashi and Chamoli districts

S. No.	Distict	Metalled road (kms)	Unmetalled road (kms)	Rail
1.	Uttarkashi	826	694	Nil
2.	Chamoli	1078	911	Nil
	Total	1904	1605	Nil

Source: Fact Book Hill Area 1984, Hill Development Board, Lucknow.

TABLE 3.2

S. No.	District	Length of metalled road/100 sq kms area (March 85)	Length of metalled road/lakh population (kms) (March 1985)
1.	Chamoli	12.70	378.40
2.	Uttarkashi	9.991	419.37

Source: Hill Area Development, Progress 1987-88 and Programme 1988-89, U.P. Govt., Lucknow, p. 89.

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Works Department) till 31 March, 1979 though funds were given by DGBR (Director General Border Roads). But since 1st of April 1979 DGBR took over roads back from UPPWD. DGBR has got two roads Rishikesh-Uttarkashi-Harsil road and Rishikesh-Badrinath road. Rishikesh-Uttarkashi-Harsil road is 222.40 kms long and is a State Highway No. 53. The second part of the road is Harsil-Bhairoghati-Nelong road, with a length of 38.12 kms. In between Lanka and Bhairoghati there is a 90 m long bridge of steel girders. This was constructed in 1985 by UPPWD. Before 1985 the journey of Gangotri, specially from Lanka to Bhairogathi was very arduous, but now the bridge gives comfortable journey and attracts more tourists and pilgrims to the area. As the bridge ensures easy accessibility more and more people are visiting Gangotri every year. From Bhairoghati the road bifurcates—one for Nelong and the other for Gangotri. Bhairoghati-Gangotri road is under UPPWD, but Bhairoghati-Nelong road comes under DGBR. Beyond Gangotri the foot trek is maintained by UPPWD.

The other road Rishikesh-Joshimath-Badrinath (297 kms) and Joshimath-Malari-Jumma (86 kms) comes under DGBR. The remaining link roads and main roads are under UPPWD.

Roads under DGBR

	Name of the road	Length
1	Rishikesh-Uttarkahi-Harsil-Nelong	260 kms
2.	Rishikesh-Joshimath-Badrinath	297 kms
3.	Nelong-Nagun	08 kms
4.	Joshimath-Malari-Jumma	86 kms

Source: DGBR, Uttarkashi.

The roads to Yamunotri and Kedarnath are under UPPWD. Though all the Char Dhams are connected with roads, which by and large, are fair-weather roads. Small showers of rain create soil erosion and landslides which hamper the traffic very frequently from hours to days.

Ecologically, Himalaya is very fragile, therefore, construction of roads is a delicate issue. Though modern adventure tourist is lured by the bridle roads than the metalled roads, because the bridle

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roads have not been robbed of their natural surrounding, where man can walk with his own shadow. However, this can not be denied that roads are essential for the development of the region. During different Plan periods high priority has been given to the construction of roads, but it can be said that road development couldn't reach to the desired point in Garhwal.

Transport Agencies

At present there are many transport companies working in Garhwal. The oldest transport company GMOU (Garhwal Motor Owners Union) came into existence with 16 buses of 18 seats each. Later, one more Garhwal Motor Transport (GMT) was founded in the then Tehri Garhwal. In 1976 Garhwal Mandal Vikas Nigam (GMVN) came into existence with a fleet of deluxe coaches given by U.P. Hill Development Corporation. But the oldest and the largest is GMOU with very fast service and in 1954-55 it had 172 buses. During 1973-74 the total trade of the company was Rs. 1 crore, which became Rs. 5.60 crores in 1981 and during 1987-88 it got gross ticket booking of Rs. 5,63,47,863. In 1989 there were 301 buses in its fleet with 142 employees, excluding drivers and conductors (office records of GMOU, Kotdwara).

Garhwal was ceremoniously opened for foreign tourism in 1974 with a network of roads and buses. This was the formal beginning of a new era of tourism in Garhwal, though package tours to Badri-Kedar, Gangotri-Yamunotri were formally started in 1972 by Uttar Pradesh Hill Development Corporation. These package tours gave wide publicity to the tourist destinations of Garhwal, not only in India but abroad too. Ever since, the number of coaches has constantly been increasing. In the year 1981 its fleet strength went up to 22 and the Nigam conducted 220 package tours taking 5,733 tourists to various destinations in Garhwal.[7] Package tours attracted a large number of tourists to the region.

Apart from these, there are buses run by U.P. Roadways, Tehri Garhwal Motor Owners Union Ltd. (TGMOU) and Roop Kund Travels. During pilgrim and tourist season additional buses are put on the yatra route to provide frequent buses to the tourists and pilgrims. At present there are 90 deluxe coaches and 20 cabs in the fleet of GMVN.

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3.3 Accommodation

Accommodation is one of the most essential tourist facility. Its importance can be measured by the fact that it takes away the largest chip of the tourist's budget. Accommodation includes all the facilities used for the sojourn of a tourist, such as hotels, motels, traveller's lodges, dharamshalas, ashrams, camps and inns. The provision of adequate availability of accommodation is one of the basic prerequisite of tourism development and the expansion of tourism automatically gears up the development of accommodation. The United Nations' Conference on International Travel and Tourism held in Rome in 1963 acknowledged the essential importance of means of accommodation, both traditional (hotels and motels) and supplementary (camps, youth hostels, tourist villages etc) as an incentive to international tourism. According to the development of Tourism Act (Britain) 1969, accommodation means, "Hotel or other establishment at which sleeping accommodation is provided by way of trade and business." All the hotels, motels, youth hostels, camping sites, circuit houses, traveller's lodges, forest lodges, and self-catering holiday villages and holiday camps are the different types of accommodation provided for the tourists.

Tourism and accommodation are interdependent, without accommodation nature's beautiful attractions blush unseen without tourists and without proper accommodation the talk of tourism as an industry is an exercise in futility. "Accommodation is one of the more visible and tangible manifestations of tourism. Facilities may form a part of the attractions of a destination . . . . they may complement the attractions, a well appointed hotel may enhance the attractiveness of a resort."[8] In India the concept of shelter for travellers and pilgrims is not new, the historical records of vihars, dharamshalas, sarais, musafirkhanas and chattis prove the point.

"A country may possess within its national confines the maximum number of attraction of most diverse kind, but without good satisfactory hotels it is not possible to develop its tourist traffic.''[9]

In Garhwal there wasn't commercial hospitality system in age-old pilgrimage. It was only pilgrimage and the crowd was religious-minded. The objective of the arduous journey (pilgrimage) was to reach the temples for salvation and not for the sake of fun and

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frolic. But the modern circumstances and fast city life have imposed the necessity of visiting country side for rest and recreation. Today's domestic traveller is not only tourist but pilgrim too. He comes not only for Kedarnath, but for the trek of Vasukital and Chaurabarital too, similarly the pilgrim of Gangotri is a trekker of Gaumukh, Tapovan and Nandavan too. An Indian traveller to Garhwal is neither purely a tourist nor a pilgrim, but the symbiosis of the two exist in him. Though such tourists are not interested in luxurious accommodation, but their requirement is a clean and comfortable bed, good food and catering service etc.

However, in Uttarkashi and Chamoli districts considerably good accommodation for tourists and pilgrims has come up in public and private sectors, though limited to some key points. A wide range of accommodation types to suit the requirements of different classes of tourists has come up. GMVN is doing fairly well in this direction whereas private sector entrepreneurs are also coming forward after initial hesitation. Other than GMVN, many other government departments have their rest-houses and dak bungalows at various tourist centres of Garhwal, foremost among them are forest rest houses and PWD bungalows.

At points like Rishikesh, Srinagar, Uttarkashi, Joshimath, Badrinath, Gaurikund, Kedarnath, Gangotri, Hanuman Chatti and Janki Chatti quite a lot has been done for the accommodation. The reason being that a pilgrim or a tourist who comes here has to take his first night halt at Rishikesh before pushing off next day either for Uttarkashi or Joshimath (Uttarkashi for Gangotri, Gaumukh, and Joshimath for Kedarnath, Badrinath, Valley of Flowers and Hemkund-Lokpal), according to their destinations. This has resulted in the agglomeration of accommodation at these places. Table 3.3 shows the accommodation type available in study area. GMVN constructed accommodation at most of the tourist places in Garhwal but the progress in this matter has not come upto the expectations. The capacity of GMVN accommodation at various places has been shown in Table 3.4.

Apart from GMVN's accommodation there are hotels (run by private owners at various centres), dharamshalas, chattis, gurudwaras and paying-guest accommodation. Hotels have got proper beds but in dharamshalas, chattis and gurudwaras sleeping

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TABLE 3.3

Accommodation types in Uttarkashi and Chamoli districts (1989)

S. No.	Name of the centre	Accommodation Govt. & Semi Govt.	Accommodation private
1	2	3	4
1.	Rudraprayag	TRH, New PWD Inspection House, Dormitory	Guest houses, Dharamshalas, Hotel
2.	Karanprayag	PWD Inspection Bungalow, Forest Rest House, TRH	Dharamshalas, Hotel
3.	Gwaldam	Tourist house, Forest rest house, PWD Inspection Bungalow	Hotel
4.	Chamoli	PWD Inspection House	Hotels, Dharamshalas
5.	Gopeshwar	PWD Inspection House TRH	Hotels, Chatti, Dharamshalas
6.	Joshimath	PWD Inspection House, Tourist Rest House, Travellers lodge, Forest Rest House, LSGED Rest House, Tehsil Rest House	Hotel, Birla Guest House, Guest House Gurudwara, Dharamshalas
7.	Pipalkoti	PWD Inspection House, TRH	Guest House, Dharamshala
8.	Gulabkoti	PWD Inspection House	—
9.	Pandukeshwar	PWD Inspection House	Hotel, Guest House Dharamshala
10.	Badrinath	Hotel Devlok GMVN, Tourist Rest House, Tourist Lodge, PWD Inspection House, Rest House	Birla Guest House, Guest House, Ashram, Dharamshala
11.	Govind Ghat	Forest Rest House	Gurudwara
12.	Ghangaria	Tourist Rest House, Forest Rest House, Tent Colony	Gurudwara

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1	2	3	4
13.	Hemkund-Lokpal	—	Gurudwara Dharmshala
14.	Ukhimath	PWD Inspection House, TRH	—
15.	Chopta	Tourist Bungalow	Chattis, Hotel
16.	Mandal	Forest Rest House	Chatti, Hotel
17.	Kalimath	—	Dharamshala
18.	Tungnath	Forest Rest House	Dharamshala
19.	Madmaheshwar	—	Dharamshala
20.	Anusuiya Devi	—	Dharamshala
21.	Birahi	Forest Rest House	—
22.	Agasthmuni	PWD Inspection House, Allwyn Huts	Guest House, Dharamshala, Hotel
23.	Chandrapuri	TRH, Tent Colony, Allwyn Hut	—
24.	Kund	—	Chatti, Dharamshala
25.	Guptakashi	PWD Inspection House, Tourist Bungalow	Guest House, Dharamshala, Hotel
26.	Phata	PWD Inspection House	Dharamshala
27.	Soneprayag	TRH, Tent Colony, Allwyn Hut	Dharamshala, Hotel
28.	Gaurikund	PWD Inspection House, Tourist Hut	Guest House, Dharamshala, Chatti, Hotel
29.	Rambara	—	Chatti, Dharamshala
30.	Kedarnath	Tourist Bungalow, PWD Inspection House, Forest Rest House	Guest House, Private House, Dharamshala, Chatti
31.	Triyuginarayan	—	Dharamshala
32.	Dharasu	Forest Rest House	Dharamshala
33.	Barkot	Forest Rest House, Tourist Bangalow	Dharamshala, Hotel

Contd.

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1	2	3	4
34.	Yamunotri	TRH	Dharamshala, Chatti
35.	Sayana Chatti	PWD Inspection House, Tourist Rest House, Traveller's Lodge	Chatti
36.	Jankichatti	TRH, TL & PWD Inspection House	Dharamshala, Hotel
37.	Hanumanchatti	TRH, PWD Inspection House, Forest Rest House	Hotel
38.	Uttarkashi	Forest Rest House, Tourist Bungalow, Traveller's Lodge, PWD Inspection Bungalow, Kuteti Devi IB	Hotel, Dharamshala
39.	Maneri	Forest Rest House Field Hostel	Hotels
40.	Bhatwari	Forest Rest House	Hotels
41.	Ganganani	Forest Rest House	Hotels
42.	Sukhi	Forest Rest House, Log Cabin	—
43.	Harsil	Forest and PWD Rest House, TRH	—
44.	Lanka	Allwyn huts, Traveller's Lodge, PWD Inspection House	—
45.	Bhairoghati	Tourist Rest House, Log Cabin, FRH, PWD Inspection House	Dharamshala
46.	Gangotri	Forest Rest House, PWD Inspection Bungalow, Tourist Rest House, TL	Chatti, Hotel, Dharamshala, Ashram, Panda Samiti
47.	Bhojbasa	Tourist Bungalow	Lal Baba, Private Lodge, Tent Colony

Note: TRH – Tourist Rest House.

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TABLE 3.4

Accommodation capacity of GMVN Tourist Bungalow's at various places in Uttarkashi & Chamoli districts (1991)

S. No.	Name of the centre	Number of beds
1.	Rudraprayag	63
2.	Karanprayag	38
3.	Gaurikund	40
4.	Van	12
5.	Kedarnath	36
6.	Joshimath	74
7.	Nandprayag	30
8.	Ghangaria	48
9.	Sonprayag	47
10.	Mundoli	12
11.	Chandrapuri	24
12.	Hotel Deolok Badrinath	84
13.	Pipalkoti	50
14.	Gwaldam	36
15.	Guptakashi	44
16.	Gauchar	30
17.	Chopta	28
18.	Barkot	40
19.	Synachatti	18
20.	Jankichatti	58
21.	Hanumanchatti	30
22.	Arakot	06
23.	Uttarkashi	84
24.	Bhairoghati	32
25.	Lanka	20
26.	Gangotri	92
27.	Bhojbasa	20
28.	Dewal	08
29.	Auli	74
30.	Gopeshwar	22
31.	Taluka	20
32.	Purola	20
33.	Mundoli	12
34.	Okhimath	10
35.	Harsil	32
36.	Yamunotri	18

Source: GMVN, Rajpur Road, Dehradun.

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space and blanket etc are provided at nominal charges. In the latter, facilities are provided charitably though not at cost-comfort basis. Government accommodation is better than private in general. Nevertheless, good private hotels have come up at Uttarkashi and Badrinath.

Tourist accommodation (private or government) is available in Garhwal, but it is not upto the general tourism standard. At the same time it must be mentioned that the general standard of tourists who visit Garhwal varies considerably and keeping this variation in view, the available accommodation has good standard for some and poor for others. However, the fact remains that for attracting more tourists and to develop tourist industry, accommodation sector requires further improvement. Table 3.5 shows the bed capacity of few tourist centres.

TABLE 3.5

Accommodation position at few tourist places during 1988 (bed capacity)

S. No.	Place	Beds
1.	Uttarkashi	503 (excluding Dharamshalas)
2.	Gangotri	80 (But Dharamshalas, Ashrams and panda society can accommodate 4000 persons)
3.	Bhojbasa	220 (including Lal Baba, GMVN and two private Hotels)
4.	Joshimath	540 (excluding Dharamshalas)
5.	Gopeshwar	182 (Hotels)
6.	Badrinath	2829 (excluding Dharamshalas)
7.	Kedarnath	78 (excluding Dharamshalas)

Source: Tourist Office, U.P. Tourism, Uttarkashi and Tourist Office, U.P. Tourism, Gopeshwar.

For the construction of new hotels and other accommodation in the region the government has to come forward, as there is lack of enthusiasm in private entrepreneurs in the region. In Japan in the year 1961, only 27.7 percent of the capital was owned privately in hotels whereas 72.3 percent was paid by the Japanese government[10].

Seasonality, high risks of investment and higher proportion of fixed assets in hotels are few causes of the hesitant attitude of the

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1. Dodital view.

2. Uttarkashi township.

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3. Harsil village.

4. Camping on way to the Valley of Flowers.

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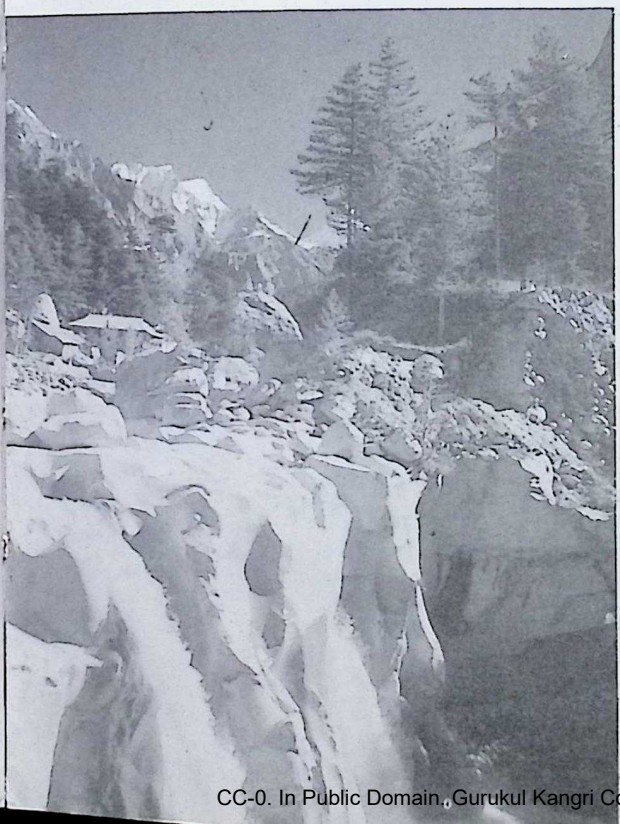
5. Shivling peak.



6. Suryakund at Gangotri.

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7. Himalayan Marsh Marigold (*Caltha palustris* Linn. var *Himalensis*).

8. Rosebay willow herb (*Epilobrium angustifolium* Linn.).

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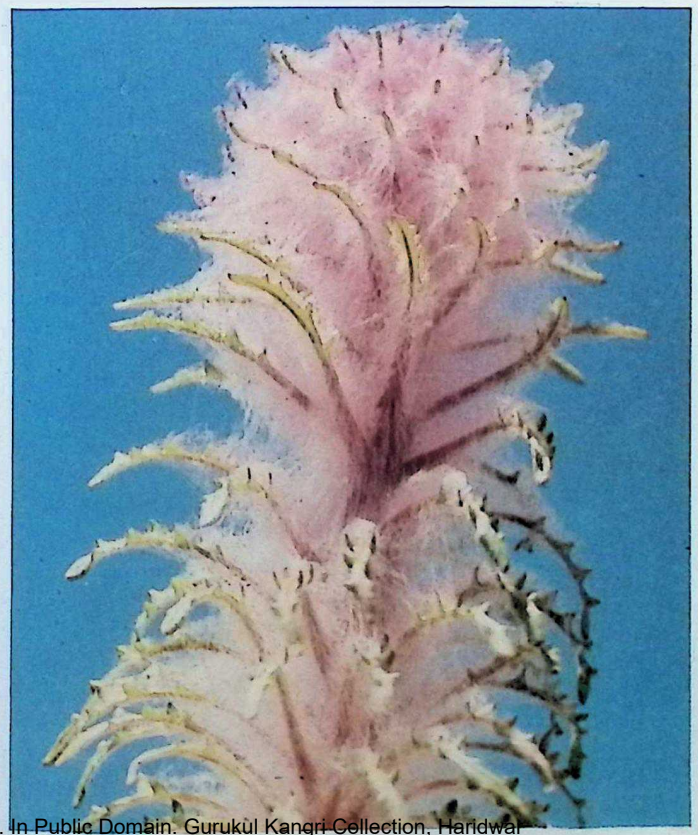
9. Braham Kamal (*Saussurea obvallata* (D.C.) Edew).



10. Hemkamal; Cottony Saussurea (*Saussurea gossypiphora)* D. Don.

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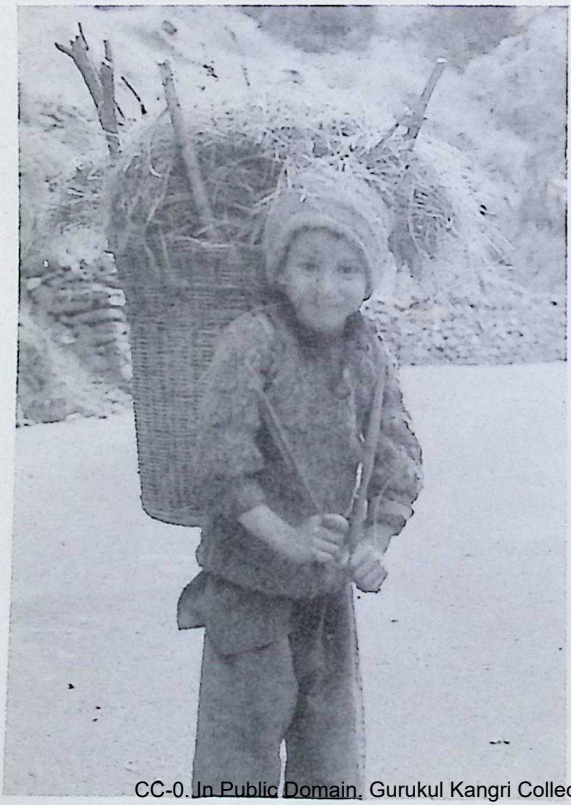
11. Traditional wooden houses of Mukhba village.



12. A smiling childhood with burdened back.

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13. Camp area, Gaumukh.

14. Bharals (mountain goats) at Bhojbasa.

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15. Gangotri temple.

16. Yamunotri temple.

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17. Badrinath temple.

18. Kedarnath temple.

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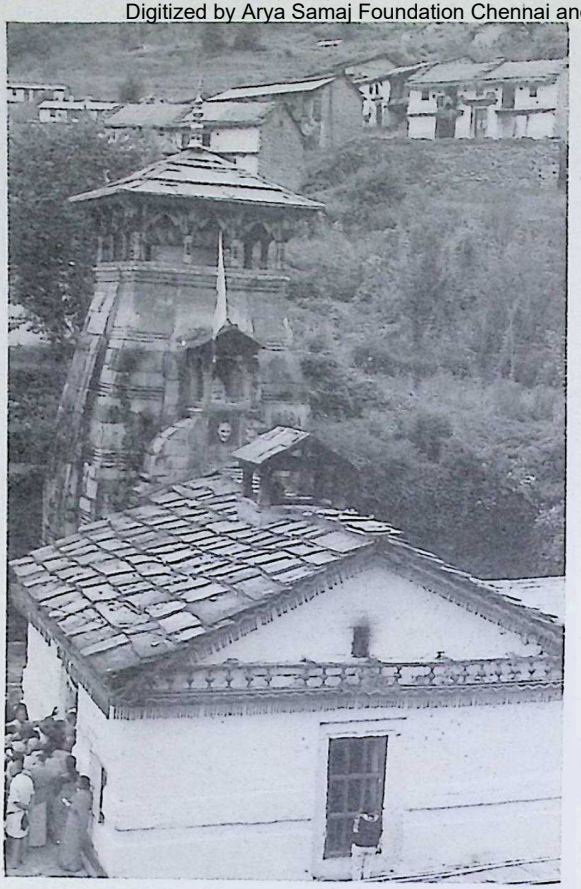
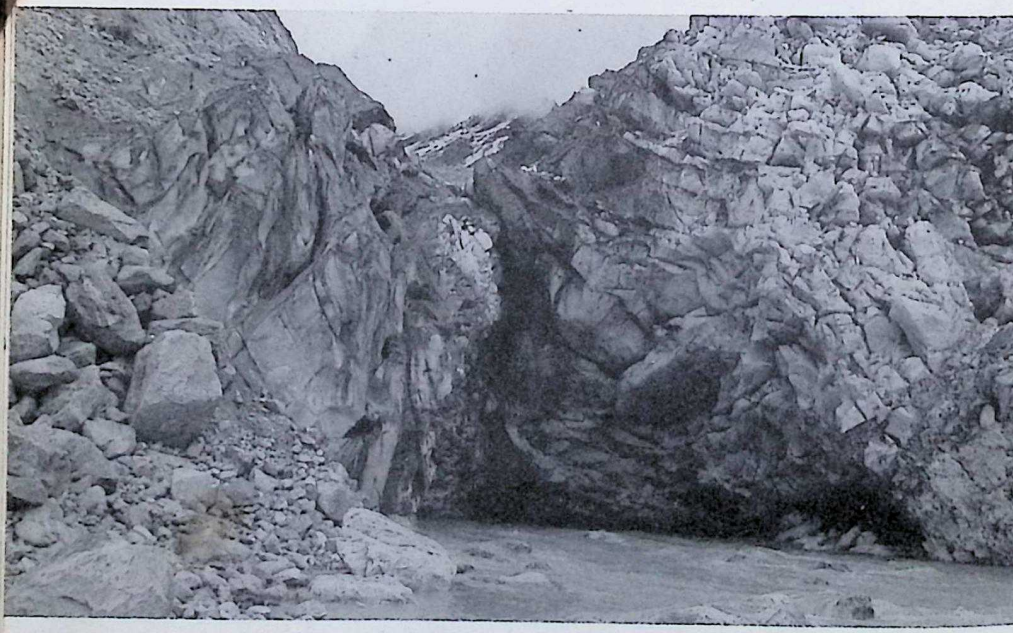


19. Triyuginarayan temple.

20. Gaumukh—
snout of Gangotri glacier.



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21. Vedinikund on way to Rupkund in district Chamoli.

22. A Garhwali hamlet, district Uttarkashi.

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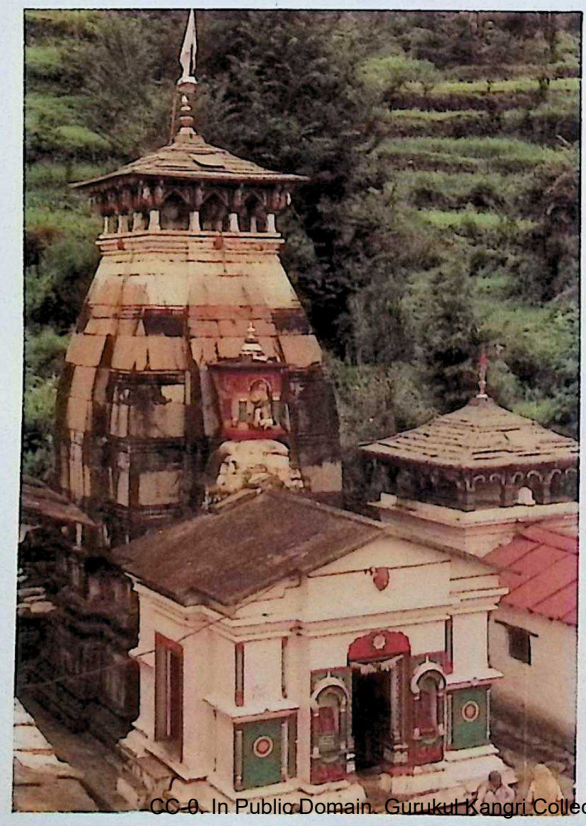
23. Hemkund-Lokpal.



24. Guptakashi temple.

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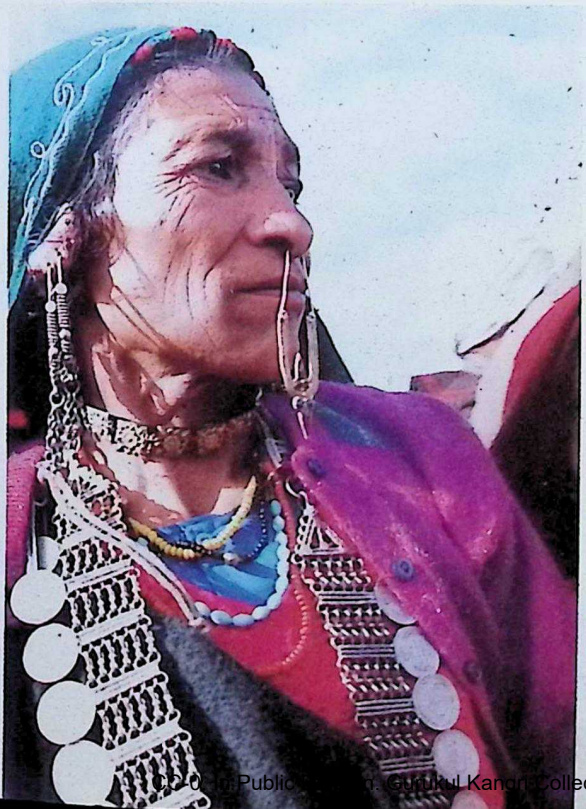
25. Doli of Kandhar Devta at Magh mela.



26. A Garhwali woman.

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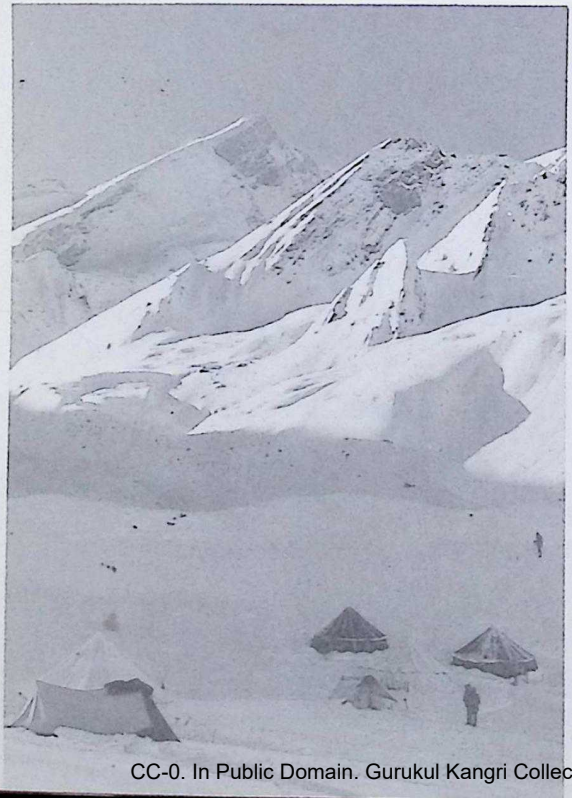
27. Soil erosion at Suryakund, Gangotri.



28. Camping on snow, Black peak in the background.

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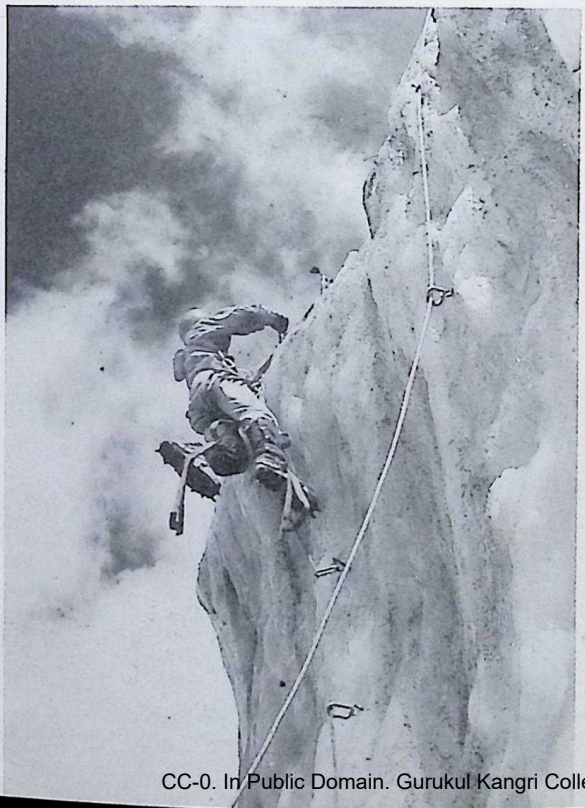
29. Vandalism by consumer culture on the Himalaya (burning of Juniper shrubs).



30. Ice climbing, Gangotri glacier.

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31. Wilson hut at Harsil.

32. Nehru Institute of Mountaineering, Uttarkashi.

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local people and others in this sector here. With the advent of adventure tourism, boarding houses, guest houses, second homes, camp villages, tourist lodges, tent colonies, open camp sites and other types of secondary accommodation are urgently required in the region. This type of tourism will break the ice of seasonality. Auli (near Joshimath), a snow-skiing resort is the finest attraction for winter tourism in Garhwal. It is going to cost 7.5 crores to develop this resort.[11] Table 3.6 shows the proposed accommodation of GMVN at various places.

TABLE 3.6

Proposed accommodation of GMVN

S. No.	Place		Bed capacity
1.	Rudranath		6 beds
2.	Panar		6 beds
3.	Urgam		10 beds
4.	Garisan		30 beds
5.	Triyuginarain		20 beds
6.	Kartik Swami		30 beds
7.	Deorital		30 beds
8.	Adibadri		10 beds
9.	Agora		10 beds
10.	Chirbasa		30 beds
Log huts			
1.	Dodital	5 huts	(4 beds each)
2.	Agoda	5 huts	(4 beds each)
3.	Nachiketatal	1 hut	(4 beds each)
4.	Madmaheshwar	8 huts	(4 beds each)
5.	Rudranath	5 huts	(4 beds each)
6.	Urgam	5 huts	(4 beds each)
7.	Malla	5 huts	(4 beds each)
8.	Belak	5 huts	(4 beds each)
9.	Dayara	5 huts	(4 beds each)

Source: GMVN, Dehradun.

3.4 ROAD-SIDE AMENITIES

The importance of way-side amenities in the development of

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tourism is very significant. Besides destination and destinational facilities, way-side amenities also play very important role in tourism promotion. The basic way-side amenities are petrol pumps, repair facilities for automobiles, health & medical centres, motels, restaurants, cafeterias, road maps and toilets etc. As per existing transport system, road transport is the only means of travelling in Garhwal, therefore, it is most essential to provide good road-side amenities. Table 3.7 gives the details of petrol pumps and service stations in Uttarkashi and Chamoli districts.

TABLE 3.7

Petrol pumps in Uttarkashi and Chamoli districts

S. No.	District	Place where petrol pumps are located
1.	Uttarkashi	Uttarkashi, Navgaon, Matli
.	Chamoli	Rudraprayag, Karanprayag, Chamoli, Gopeshwar and Pipalkoti

TABLE 3.8

Automobile workshop in Uttarkashi and Chamoli districts

S. No.	District	Place where automobile workshops are located
1.	Uttarkashi	Uttarkashi, Barkot, Navgaon, Purola & Chinyali Saur
2.	Chamoli	Karanprayag, Joshimath, Badrinath (seasonal), Sonprayag, Guptakashi, Gopeshwar and Chamoli

Source: Personal field survey.

Existing way-side amenities are of poor standard. There are 3 petrol pumps in Uttarkashi district and 5 in Chamoli district. These pumps cater to the requirements of regular automobiles as well as the seasonal flood of tourist/pilgrim automobiles. There should be more petrol pumps in this area. One petrol pump at Uttarkashi proper is not sufficient for the seasonal crowd, occasional unavailability of petrol at Uttarkashi petrol pump creates chaos. The people are sometimes stranded there due to non-availability of petrol which disturbs the accommodation, food and other facilities (demand/supply equilibrium). Though most of the places have got

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service centres but they are not generally located on the way. People have to look for such centres which spoils the enjoyment of journey and creates the problem of wastage of time, too. Therefore, either petrol pumps should have these service centres or they should be located somewhere on the way for the convenience of the tourists. Not a single restaurant or eating house is there for exclusive use of the tourists/pilgrims. All the restaurants are located in the heart of the towns every where in Uttarkashi and Chamoli districts.

The entire region lacks toilet facilities on the road-side. Gunny sack toilets, that dot the yatra route are a big blot on the tourism infrastructure of Garhwal. Sulabh Sauchalayas should be constructed at least after every 50 kms from Rishikesh onwards. The conditions of gunny toilets are generally unhygienic. Such toilets are prone to epidemics and cause annoyance to the users. It is very necessary to improve toilet facilities of road-sides.

3.5 Entertainment and Recreation

In Garhwal and specially in Uttarkashi and Chamoli districts there is nothing to provide for recreation and entertainment. No one can think of glittering night life in such serenity, but centres of yoga, meditation, jungle safari (for watching varied flora and fauna), rock-climbing, skiing, rafting, canoeing, hang-gliding, camping etc can be developed. Such centres can serve the needs of tourists of varied interests. The inclination of tourist towards adventure activities necessitates the development of above activities for recreation and fun. Large capital investment is not required for developing these recreational facilities.

Dwindling local fairs and festivals have to be revived for the entertainment of the tourists. Magh mela of Uttarkashi, trade fair of Gauchar, Bari Raj-Jat-Yatra of Roopkund and Choti Raj-Jat-Yatra of Vedni Kund have to be revived.

3.6 Travel Agencies and Tourist Guides

In tourism travel agents, who offer travel packages for various attractions of the area and bring tourists to these places, play a vital role. Travel agents assist individuals or groups wishing to take

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trips. Prepairing itineraries, arranging transport, accommodation and other services are the basic services done by the travel agencies. The travel agent, in fact works as a middle man between the tourist and the destination. He does the publicity job also. This business of middleman began in July 1841 with the pioneering work of Thomas Cook in Britain. Travel agents are known as the wholesalers of travel and tourism trade.

In Uttarkashi at present there are seven known travel agencies:

1. Mount Support
2. Mountain Guide
3. Himalayan Trekking
4. Para Mount
5. Alfresco
6. High Land Treks & Tours
7. Crystal Adventure.

These travel agencies are generally providing facilities for adventure tourists, who are coming here for trekking, mountain-climbing, rock-climbing, river rafting and canoeing etc. The facilities provided by these travel agencies are—porters, cooks, HAP (High Altitude Porter), guides, accommodation arrangement and transport etc. These agencies have equipment stores and they give these on hire to the tourists. Initially these agencies got work from Delhi-based travel agencies, but now with their better services and improved contacts they are getting direct booking from the tourists (Indian and foreigners).

These travel agencies can enlarge the spectrum of their services to the customers and generate more opportunities of employment and income. For the development of tourist industry, healthy travel agencies are essential. In fact with a sound network of travel agencies proper flow of tourists can be maintained. Just to encourage tourism in private sector as a means of employment the government started a special programme of loaning up to Rs. 50,000 with 20 percent subsidy. Further increase in the amount of loan is under consideration.[12]

The tourist guide is one of the most important figures in accelerating the tourist traffic. He is the one who comes in close contact of the tourists. He satisfies each and every query of the tourist

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arising during the tour. He gives the details of social customs, culture, tradition, fairs, festivals, geography, history, religion, flora and fauna of the region to the tourists. At present GMVN provides the facility of trained guides for the tours and treks. Private travel agencies of Uttarkashi also provide guides to the tourists.

3.7 Publicity

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Effective publicity is the basic means of increasing tourist inflow. If this is badly planned or inadequately financed, it would not only hamper the development, but also reduce the inflow of tourists.[13] Publicity, therefore, is an essential effort to encourage tourism in the region, and it can be done variously:

1. Audio or visual means
2. Literature
3. Returning tourists.

For publicity GMVN and government have done fairly well. View cards, calendars, books, brochers and maps are being brought out. Advertisements in newspapers and maganizes are being inserted. The electronic media which has a wider and effective appeal has also been pressed into service for publicity purpose. Being the most impressive component of publicity it has to be tapped more vigorously.

3.8 Shopping

Shopping is one of the important activities of the tourist in and around the destination. Every tourist wants to take some thing with him as a souvenir. Apart from the money which a souvenir brings in exchange to the local people, it gives invaluable publicity to the region. The woollen goods (pankhis, chutka, thulma and carpets) of Bhotia and Jads are worth buying from Garhwal. Other traditional wares are bamboo items, wooden toys and replicas of old temples, but these things are languishing in dark corners due to lack of show-rooms on the Yatra route. This neglected aspect of tourism in Garhwal region results in loss both to the tourist and the craftsmen of the region. The government show-rooms should display and sell these artefacts.

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3.9 Other Facilities

There are some other facilities erroneously treated as secondary and neglected by the researchers and planners of the region oblivious of the fact that without them no tourist destination can bloom. These are supply of drinking water, electricity, good sanitation, banks, medical aid and post & telegraph etc. Drinking water requirement of few big towns of Garhwal is estimated by Jal Sansthan, Dehradun, which is given here in Table 3.9.

Table 3.9

Water requirement of major tourist centres

S. No.	Tourist centre	Litre/day city (1981)	For floating population
1.	Uttarkashi	27,27,000	10,00,000
2.	Badrinath	—	8,80,00,000
3.	Kedarnath	—	40,00,000
4.	Joshimath	22,08,060	20,00,000
5.	Karanprayag	3,59,370	20,00,000
6.	Gopeshwar	3,18,600	10,00,000
7.	Barkot	20,960	60,00,000
8.	Bhatwari	55,836	60,00,000

Source: Jal Sansthan, Dehradun.

In both the districts the villages are having the problem of drinking water. Either the villages are without drinking water supply or wherever it is provided, it is full of problems. The percentage of villages devoid of proper drinking water supply upto (1986 Sep) was 69.88 in Chamoli and 92.07 in Uttarkashi districts.[14] Though all the major towns are having drinking water facility, but there is scarcity of water during summers and the water (hard water) is not properly treated. Foreigners are particularly very panicky of drinking this water (100 foreigners were interviewed out of them 45 were not drinking water here, 40 were drinking with purifying pills and 15 were taking as it was).

Electricity supply is also not sufficient and good. Villages are not electrified fully. Major towns are electrified but the supply is by and large erratic. The percentage of electrified villages in total

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inhabited villages (upto March 1987) in Chamoli was 59.4 and in Uttarkashi 77.05.

TABLE 3.10

Percentage of electrified villages in the total inhabited villages (March 1987)

S. No.	District	Percentage of electrified villages to total inhabited villages
1.	Chamoli	59.40
2.	Uttarkashi	77.05

Source: Hill Area Development Progress 1987-88 and Programme 1988-89.

Banks are also very important for the pilgrims/tourists and the local people. Bank branches are sufficient and are providing efficient services. But some times when a foreign tourist comes with foreign currency he is faced with the problem of money exchange in Garhwal.

TABLE 3.11

Number of bank branches

S. No.	Name of the bank	No. of branches	
		Chamoli district	Uttarkashi district
1.	Nationalised bank branches	29	20
2.	Non-Nationalised bank branches	2	Nil
3.	Co-operative banks		
	(a) U.P. Distt. Co-operative bank branches (March 1985)	17	16
	(b) U.P. Land Dev. bank branches (March 1985)	1	1
4.	Scheduled commercial bank branches	28	19
	Total	77	65

Source: Hill Area Development Progress 1987-88 and Programme 1988-89, pp. 91, 92 and 93, U.P. Government, Lucknow.

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General hygiene and sanitation in public places in and around tourist accommodation is not very good. For example at Gangotri, in summers 10 sweepers are employed every year by the Health Department, Uttarkashi to cope with the needs of thousands of pilgrims and tourists who come every day. Bus stop, temple surroundings and the banks of Bhagirathi stink very much every morning. All the Char Dhams which are claimed to have been developed as pilgrim and tourist centres are having this problem.

Medical facilities are very important for the healthy development of local people and for tourists. The condition of medical facilities too, is very scarce in the region, not to speak of being sufficient for the local people even. There are very few hospitals, and wherever they are, they are not well equipped. Table 3.12 shows the poor ratio of hospitals to the population.

TABLE 3.12

No. of hospitals/dispensaries

S. No.	Hospital/Dispensary	Chamoli	Uttarkashi
1.	Alopathic hospitals/dispensaries per lakh population (1.1.84)	17.75	17.24
2.	No. of beds in Alopathic hospitals/ dispensaries per lakh population (1.1.84)	118.02	107.38

Source: Hill Area Development Progress 1987-88 and Programme 1988-89, Govt. of U.P., p. 90, U.P. Government, Lucknow.

Similarly good Post & Telegraph services are very essential for tourism development. Speedy means of communication have an added attraction. The condition of telegraph and telephone is not good. Table 3.13 shows the telecommunication position.

TABLE 3.13

Number of post & telegraph offices and communication services (1981)

S. No.	District	Post office	P&T office	Telephone
1.	Chamoli	288	53	258
2.	Uttarkashi	99	08	183

Source: Fact Book Hill Area 1984, Hill Development Board, Lucknow.

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Presently radio communication, which is very important for mountain tourism specially at the time of casualty, search and rescue, is non-existent in the region.

Insurance companies also play important role in the development of tourism. Insurance company branches are there in the main towns of the region. Insurance of porters, high altitude porters and guide etc creates confidence among the local people, which is necessary in mountain tourism of the region.

3.10 Adventure Tourism Infrastructure

For Himalayan tourism and specially for trekking and mountaineering some special infrastructural facilities are required apart from the normal infrastructure. Mountaineering and trekking activities start from the road-head, therefore infrastructural requirements also begin from the road-head. They are as following:

Camp areas, camping kit, equipment and clothing, food, regional informations, maps of the area, radio communication and search and rescue service.

The sorry state of the region is that apart from scanty equipment stores most of the things are non-existent in the region. Worth mentioning is the introduction of Vayudoot flight for aerial viewing of Garhwal.

Spectrum of infrastructural facilities for pilgrimage and general tourism are coming up gradually but for mountain tourism suitable steps and directions are desperately required. Talking about mountain tourism without proper infrastructure will be a myth. If unorganised mountain tourism (without infrastructure) is allowed to go, certainly it will create catastrophe.

It can be concluded that fair-weather roads, shortage of buses and road-side amenities are the biggest problems of travel and transport. Urgently required air transport is utterly lacking. Accommodation is scarce and not up to the standard. Publicity requires great care and effort. Radio communication is no where on the scenario of adventure tourism infrastructure and to be more specific there is nothing worth mentioning for the development of adventure tourism infrastructure in the region.

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4

Economics of Mountaineering and Trekking

4.1 Introduction

Of all the development activities, mountaineering and trekking have the potential to usher in an all-round development in Garhwal region. As we know that tourism involves expenditure and resources use to achieve multiple ends, returns become important. Returns can be economic, social, cultural, political, psychological and ecological. To achieve them, ends and means count a lot. The returns, positive or negative, which are not related to the objectives can be deemed as unintended consequences. But even today, in India, tourism has been largely conceived of in economic terms. Therefore, the economics of mountaineering and trekking is very important, when we talk about mountain tourism.

Mountaineering and trekking requires lots of money from the pockets of tourists, the government and private operators. Adventure tourism has to go to such areas which are difficult in approach. Tourist attractions in Garhwal are not only located in remote corners but are difficult in approach. Simultaneously clothing, equipment and food for such activities are varied and costly. Hence acquiring such things is difficult and expensive for the domestic tourist if not for the foreign tourist. On the other hand tour operators also face great difficulties in arranging such things. Firstly because, they are expensive, secondly they are scarcely available in India. Economics is the game of demand and supply. Simplest thing to earn profit is to increase supply when demand is increasing, but

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in adventure tourism demand for mountains, treks and infrastructure is great in Garhwal, whereas the supply of goods and services to cater to the tourist demand is meagre. Supply side i.e. transport, roads, accommodation and road-side amenities are either very weak or at its initial stage. However, they are coming up, though at a slower speed.

4.2 Tourism: A Source of Economic Development

It is well known that Garhwal, due to its difficult topography, deficient mineral resources and fragile eco-system, is not suitable for any manufacturing industry. Hence its mountains, rivers, forests, glaciers, peaks, pastures and tarns can be the only source of economic development (through mountain tourism) of this underdeveloped region. Davis gave four reasons for the encouragement of tourist industry in developing countries.

1. "In many developing countries, the demand prospects for international tourism are considerably brighter than they are for traditional exports.
2. Tourism is relatively labour-intensive and compares favourably with other economic activity as a generator of employment.
3. Tourism can speed up the development process because the gestation period of most tourist investment projects is relatively short.
4. Tourism can often generate economic growth in countries or regions that however much they offer to tourists, have little or nothing in the way of resources to offer to anyone else. The sector can thus help to instigate disequilibrium."[1]

Most of these are existing in developing countries of the world. Therefore tourism development might be defined specially as the provision or enhancement of facilities and services to meet the need of the tourists. If tourism is to become successful and a self-perpetuating industry, it needs to be planned and managed as a renewable resource industry, based on local capacities and community decision-making. Right decision at right time is most essential. Right decision about the funds (government, big businessmen and

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banks) is of foremost importance. Finally, tourism development must combine planning (existing potentials, goals, infrastructure, facilities and development strategy) with marketing and management (day to day, season-wise etc). All these things are of paramount importance in such sensitive business. Planning is concerned with anticipating and regulating change in a system, to promote orderly development, so as to increase the social, economic and environmental benefits of the development process.

To-date most tourism plans have been oriented towards personal profit and careless economic growth. Therefore, very soon tourist destinations started facing environmental problems. Primary concern of tourism business was economic gains. The existence of tourism potential, however, need not necessarily lead to a flourishing tourist industry. Therefore the objective of every potential holding area is not only to maintain it but to provide it to the tourist with care. Therefore 'what' (potentials), 'how' (planning) and to 'whom' (tourist) are to be decided first before we embark on launching tourism in the area as an industry and later on they are the factors on which rests the entire dynamics of tourist economy.

The potential of this industry is spread every where on earth from easy plains, rivers, forests, sea-shores, sky to mountain tops. There is also a branch of economy that avoids central places and the agglomeration of industry. This is tourism. "Tourism is drawn to the periphery of settlement districts as it searches for a position on the highest mountains in the most lonely woods, along the remotest beaches."[2] Tourism industry, hence deals with identification of potentials, planning for their betterment, developmental strategy, marketing and management, without one the other remains useless.

Without the intervention of the tourism industry, the tourists would necessarily tend to neglect the tourism assets, however valuable these may be. In other words, the tourism industry is a vital link between the tourism assets and the tourism market. Since the tourism industry provides the vital tourism growth, but inefficient and inadequate tourism industry retards such growth, whereas a strong and efficient tourism sector promotes and accelerates the growth of the region. The need of leisure and pilgrim tourist differs from those of business tourists. And even within each of these

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market segments, the requirements vary in accordance with the income pattern, as well as sex, age and other characteristics of the tourists therein. While the tourism industry is, thus an essential pre-requisite for the growth of tourism, its importance, however, is essentially dependent on a country or a region. Bermuda, situated hundreds of miles from a land mass, was once small agricultural producer; but with the growth of population, tourism was an obvious choice to improve the island's economy. Now it is the major industry of the country.

Tourism and leisure industry in the world has an interesting history. Prior to the industrial revolution in Europe, the aristocracy had a virtual monopoly of leisure and tourism. Gradually as time went on some workers did manage to arrange short holidays largely limited to Christmas and Easter. Holidaying for masses throughout the Victorian era was almost entirely confined to day excursions. Till 1900 holiday was taken for granted as a luxury and until 1960 working week was about 45 hours, but later it was reduced to 40 hours a week. In USA, hundreds of firms now handle the week-end holidays. Reduction in working hours, increased disposable income, fast transport system and monotonous character of city life not only accelerated tourism but diverted it towards remote country side and nature. Weekly leisure time gave rise to the demand for essentially local leisure facilities, but the annual leisure pattern in the developed countries is of a different significance when it comes to determining how and where the disposable free time is spent. "Four weeks paid holiday of 1980 has popularised holidaying abroad. Tourism, as we know it today, is a relatively new phenomenon, which generates new demands on land for use and enjoyment on a scale not envisaged until recently."[3]

The struggle for the country side, remote areas close to nature, in fact are becoming every where popular and more complex. The tourist, the farmer, the sportsman and the resident himself all claim title to its use. Each has his own activity for which he can make a good case. Each, if given the chance, would exclude one or all the others. Hence the system of taking decisions must match the new complexity of tourist industry and the pressure from others. Reconciling development and conservation thus depends upon a skillful sorting out of goals and values, both public and private.

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Hence it is very clear that the tourist demand and local uses can seldom clash, but can be checked by wise management and planning. It can reduce the conflict and ensure the full use and enjoyment of scarce resources in economic, social and aesthetic terms. To date, most tourism goals and planning have been oriented towards business interests and economic growth. The prime motive for tourism development and planning has been commercial and economic gain. The mere existence of tourism potential, however, need not necessarily lead to a flourishing tourist industry. It can be disastrous too. Therefore the planning, policy framing, administration and careful implementation is most essential.

4.3 Key Phases of Tourism Planning

In planning tourism to an area, one must not forget the aesthetics of the region which determine the rate of development of tourism. In fact, it is extremely important that the natural beauty of potentially popular destinations be preserved and protected by sensible planning. Key tourism planning phases are:

1. Assessment of tourist demand and supply
2. Establishing objectives
3. Territorial planning
4. Basic infrastructure
5. Financial planning
6. Human resource planning
7. Administrative structure
8. Marketing and promotion
9. Monitoring progress
10. Time factor

Prior to the establishment of tourism industry, if we look upon all above segments of planning, there will be no chance for haphazard development of the region or imbalance in the multiple resource use system. So the first thing is: what are the assets that can be developed into destination? what is the number of tourists, whether it is increasing or decreasing, what should be the objective? and to achieve these objectives what should be the planning? How infrastructure should be developed, how finances can be

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allocated, and what will be the priority in investment, how local human resources can be utilised, what will be the administrative set up? How marketing will be looked after with an idea of promotion with specific time period? If this all is framed well in time and chalked out properly there is no question of failure or dark future of tourism. The planning system must also be flexible in time and in scale. There is no absolute or all-time best use of resources. The pattern of demand changes over the years, therefore, flexibility in tourism planning is must. This flexibility should be adopted in different spheres of tourism planning.

If tourist arrivals to a particular destination keep on increasing, the planners have to think about augmenting the facilities for increasing number of tourists, but this increase can be adjusted upto a certain extent i.e., upto the carrying capacity of the region. The planners have to think about the ways and means of diversifying the crowd to other destinations rather than concentration of tourists at a particular place.

Beginning of tourism in Garhwal had been made earlier in 1972 but GMVN ushered mountain tourism with the establishment of Mountaineering Division in 1976. U.P. Government made primary investment with the construction and maintenance of accommodation and other basic amenities. This encouraged the private entrepreneurs for secondary investments in the region as hoteliers, travel agents, transporters and guides etc. But the private tourism operators have never revealed their income, expenditure, profit and loss details, in spite of a firm assurance given to them that their information will be kept confidential and will be used only for the purpose of study. Therefore, this study is based on the data collected from GMVN, U.P. Tourism and Indian Mountaineering Foundation, New Delhi.

4.4 Tourist Influx in the Region

The influx of tourists/pilgrims to Uttarkashi and Chamoli districts of Garhwal is increasing. Earlier the crowd was purely of pilgrims but today whosoever is visiting Garhwal, is having religious sentiments as well as adventure pursuit. In fact inclination for adventure is increasing day by day. Tourist arrivals to a few destinations has been shown in Table 4.1.

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TABLE 4.1

Tourist arrivals

S. No.	Year	Tourist arrivals				
		Badrinath	Kedarnath	Gangotri	Yamunotri	Valley of Flowers
1.	1971	1,60,000	36,619	30,243	18,000	2,187
2.	1975	1,80,000	64,446	38,660	40,101	5,830
3.	1980	2,37,357	92,654	61,401	66,581	25,609
4.	1985	2,51,867	99,803	1,31,018	78,943	25,743
5.	1990	3,65,000		1,08,175	1,00,672	59,778

Source: Directorate, U.P. Tourism, Lucknow.

Pilgrim/tourist destinations of Uttarkashi and Chamoli are attracting large crowd every year. Table 4.1 and Fig. 12 show the tourist/pilgrim arrivals in some tourist centres of Uttarkashi and Chamoli districts of Garhwal. The table shows that in general the trend in tourist/pilgrim arrivals is increasing barring the decrease in 1990 for Gangotri. Adventure tourism of the Valley of Flowers is increasing more rapidly than the pilgrimage of pilgrim centres of Garhwal. Table 4.2 shows the details.

TABLE 4.2

S.No.	Year	Tourist arrivals				
		Badrinath	Kedarnath	Gangotri	Yamunotri	Valley of Flowers
1.	1980	2,37,357	92,654	61,401	66,581	25,609
2.	1981	2,14,280	97,202	43,097	78,307	24,304
3.	1982	1,98,886	72,249	75,653	55,743	34,807
4.	1983	2,27,395	81,875	1,30,261	81,855	48,075
5.	1984	2,36,574	1,13,000	92,742	1,18,000	23,938
6.	1985	2,51,867	99,803	1,31,018	78,943	25,743
7.	1986	2,62,432	84,000	83,976	93,492	47,037
8.	1987	2,71,850	88,000	85,980	64,543	49,827
9.	1988	2,90,938	1,00,000	93,589	68,926	52,409
10.	1989	3,48,592	1,15,856	1,24,127	1,09,455	52,958
11.	1990	3,65,000	—	1,08,175	1,00,672	59,778

Source: Directorate, U.P. Tourism, Lucknow.

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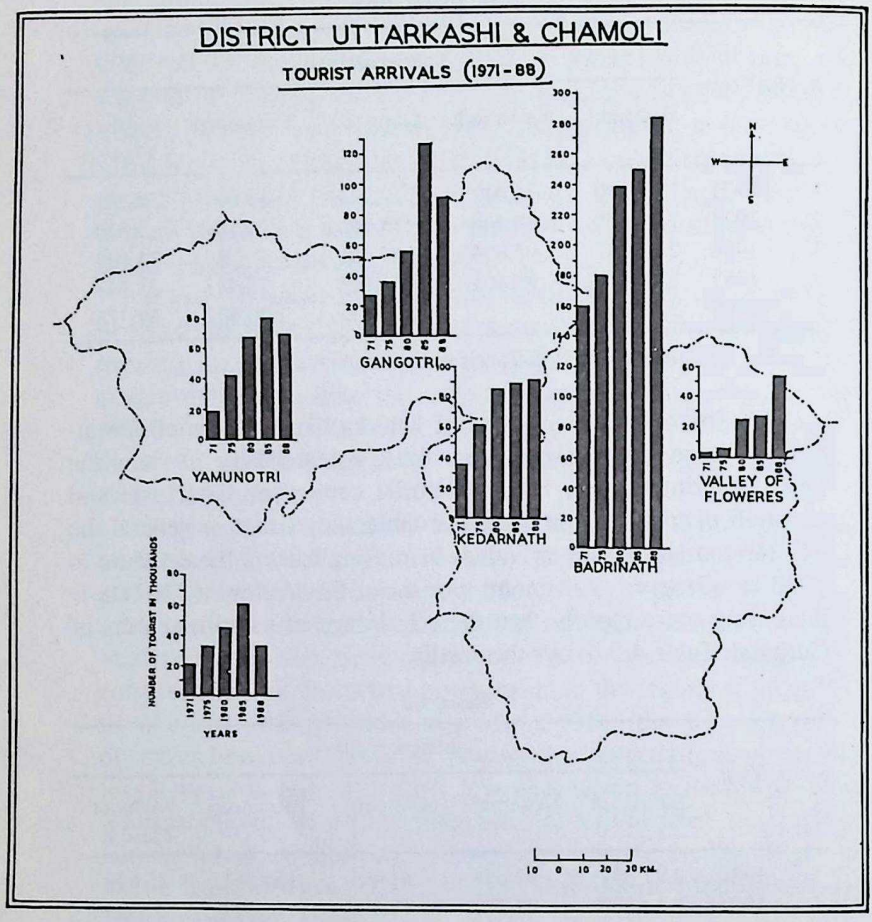

Fig. 12. Tourist arrivals in Uttarkashi & Chamoli districts (1971-88).

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It has been tried to calculate the coefficient of variation in tourist arrivals of some tourist destinations of border districts of Garhwal region.

Coefficient of Variation (CV) is given by

$$CV = \left(\frac{\sigma}{\bar{x}}\right) 100$$

$$\text{where } \sigma = \sqrt{\frac{\Sigma d^2x}{n} \quad \frac{(\Sigma dx)^2}{n^2}} = \text{standard deviation}$$

and $\bar{x}$ = actual average

defined by the relation $\bar{x} = x \pm \frac{\Sigma dx}{n}$

Where x = assumed average.

TABLE 4.3

Tourist arrivals in Badrinath

S. No.	Year	Tourist/Pilgrim arrivals	dx	d^2x
1.	1980	2,37,357	-25,075	62,87,55,625
2.	1981	2,14,280	-48,152	2,31,86,15,104
3.	1982	1,98,886	-63,546	4,03,80,94,116
4.	1983	2,27,395	-35,037	1,22,75,91,369
5.	1984	2,36,574	-25,858	6,68,66,36,164
6.	1985	2,51,867	-10,565	11,16,19,225
7.	1986	2,62,432	0	0
8.	1987	2,71,850	+9,418	8,86,98,724
9.	1988	2,90,938	+28,506	81,25,92,036
10.	1989	3,48,592	+86,160	7,42,35,45,600
11.	1990	3,65,000	+1,02,568	10,52,01,94,624
	11	Σ29,05,171	+18,419	27,83,83,42,587

σ = 50278.76

C.V. = 19.28%

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TABLE 4.4

Tourist arrivals in Kedarnath

S.No.	Year	Tourist/Pilgrim arrivals	dx	d^2x
1.	1980	92,654	-7,149	5,11,08,201
2.	1981	97,202	-2,601	6,76,52,201
3.	1982	72,249	-27,554	75,92,22,916
4.	1983	81,875	-17,928	32,14,13,184
5.	1984	1,13,000	+13,197	17,41,60,809
6.	1985	99,803	0	0
7.	1986	84,000	-15,803	24,97,34,809
8.	1987	88,000	-11,803	13,93,10,809
9.	1988	1,00,000	+197	38,809
10.	1989	1,15,000	+16,053	25,76,98,809
	10	Σ9,44,639	-53,391	1,95,94,53,547

σ = 12939.83

C.V. = 13.69%

TABLE 4.5

Tourist arrivals in Gangotri

S. No.	Year	Tourist/Pilgrim arrivals	dx	d^2x
1.	1980	61,401	-31,341	98,22,58,281
2.	1981	43,097	-49,645	2,46,46,26,025
3.	1982	75,653	-17,089	29,20,33,921
4.	1983	1,30,261	+37,519	1,40,76,75,361
5.	1984	92,742	0	0
6.	1985	1,31,018	+38,276	1,46,50,52,176
7.	1986	83,976	-8,766	7,68,42,756
8.	1987	85,980	-6,762	4,57,24,644
9.	1988	93,589	+847	7,17,409
10.	1989	1,24,127	+31,385	98,50,18,225
11.	1990	1,08,175	+15,433	23,81,77,489
	11	10,30,019	+9,857	7,95,81,26,287

σ = 26882.39

C.V. = 29.26%

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TABLE 4.6

Tourist arrivals in Yamunotri

S. No.	Year	Tourist/Pilgrim arrivals	dx	d^2x
1.	1980	66,581	-12,362	15,28,19,044
2.	1981	78,307	-636	4,04,496
3.	1982	55,743	-23,200	53,82,40,000
4.	1983	81,855	+2,912	84,79,744
5.	1984	1,18,000	+39,057	1,52,54,49,249
6.	1985	78,943	0	0
7.	1986	93,492	+14,549	21,16,73,401
8.	1987	64,543	-14,400	20,73,60,000
9.	1988	68,926	-10,017	10,03,40,289
10.	1989	1,09,455	+30,512	93,09,82,144
11.	1990	1,00,672	+21,729	47,21,49,441
	11	9,16,517	+48,144	4,14,78,97,808

σ = 18918.93
C.V. = 25.37%

TABLE 4.7

Tourist arrivals in Valley of Flowers

S. No.	Year	Tourist/Pilgrim arrivals	dx	d^2x
1.	1980	25,609	-21,428	45,91,59,184
2.	1981	24,304	-22,733	51,67,89,289
3.	1982	34,807	-12,230	14,95,72,900
4.	1983	48,075	+1,038	10,77,444
5.	1984	23,938	-23,938	57,30,27,844
6.	1985	25,743	-21,294	45,34,34,436
7.	1986	47,037	0	0
8.	1987	49,827	+2,790	77,84,100
9.	1988	52,409	+5,372	2,88,58,384
10.	1989	52,958	+5,921	3,50,58,241
11.	1990	59,778	+12,741	16,23,33,081
	11	4,44,485	-73,761	7,54,43,45,503

σ = 25315.71
C.V. = 62.76%

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The coefficient of variation for Badrinath, Kedarnath, Gangotri, Yamunotri and Valley of Flowers has been calculated as following: 19.28, 13.69, 29.26, 25.37 and 62.76 percent respectively. This shows that highest (62.76%) variation in tourist/pilgrim arrivals is in the Valley of Flowers, minimum is in Badrinath and Kedarnath.

In Valley of Flowers camping is prohibited. Badrinath and Kedarnath have got variation of less than 20 percent. Both the places have good and plenty of accommodation and other facilities in comparison to other tourist destinations (Gangotri and Yamunotri). Therefore the variation is minimum and tourist arrivals is maximum. This can increase with additional facilities and publicity.

Long term trend has been calculated. The data has been taken from Table 4.2 and trend line for Badrinath (Fig. 13), Kedarnath (Fig. 14), Gangotri (Fig. 15), Yamunotri (Fig. 16) and the Valley of Flowers (Fig. 17) has been drawn. In general increasing long term trend has been found for all the five tourist centres of Uttarkashi and Chamoli districts of Garhwal.

4.5 Income and Expenditure of Mountaineering Division of GMVN

Table 4.8 shows the income and expenditure of Mountaineering division of GMVN. Though the number of tours decreased from 1986-87 to 1987-88, but the net profit increased a lot. Net profit of 1986-87 (deducting rent, salary and other expenditure from total income) was only Rs. 7245.20, whereas in 1987-88 it increased many fold, and became Rs. 74,897.60. In 1988-89 number of tours increased from 14 to 22, and net profit went up to Rs. 1,63,291.10. Similarly total tours undertaken in 1989-90 went up to 34, and net profit went up to 2,53,604.30. That is quite a large increase in income. Number of mountain tourists handled by GMVN is also increasing every year. In 1988-89 the number of tourists was 740, and this shot upto 1582 in 1989-90. Figure 18 shows the growth of mountain tourism in Uttarkashi and Chamoli districts.

Number of tourists, tours, income and employment show a healthy trend of mountain tourism in Garhwal Himalaya. Though the number of tourists entertained by GMVN is very small part of

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TABLE 4.8

Income and expenditure of Mountaineering Division, GMVN, Muni-Ki-Reti (Rishikesh)

Sl. No.	Year	Total tour	Total income from booking	Expenditure	Rent	Salary	Total expenditure	Net income	Number of tourists		
									Indian	Foreign	Total
1.	1986-87	21	4,04,771.00	3,07,410.00	12,000	78,115.80	3,97,525.00	7,245.20	1,097	90	1,187
2.	1987-88	14	4,09,694.00	2,36,500.00	12,000	86,290.40	3,34,796.40	74,897.60	77	92	169
3.	1988-89	22	4,92,374.00	2,12,297.00	12,000	1,04,285.90	3,29,082.90	1,63,291.10	590	150	740
4.	1989-90	34	7,76,055.00	3,75,434.00	12,000	1,35,016.30	5,22,450.80	2,53,604.30	1,428	154	1,582

Source: Mountaineering Division, GMVN, Muni-Ki-Reti, Rishikesh

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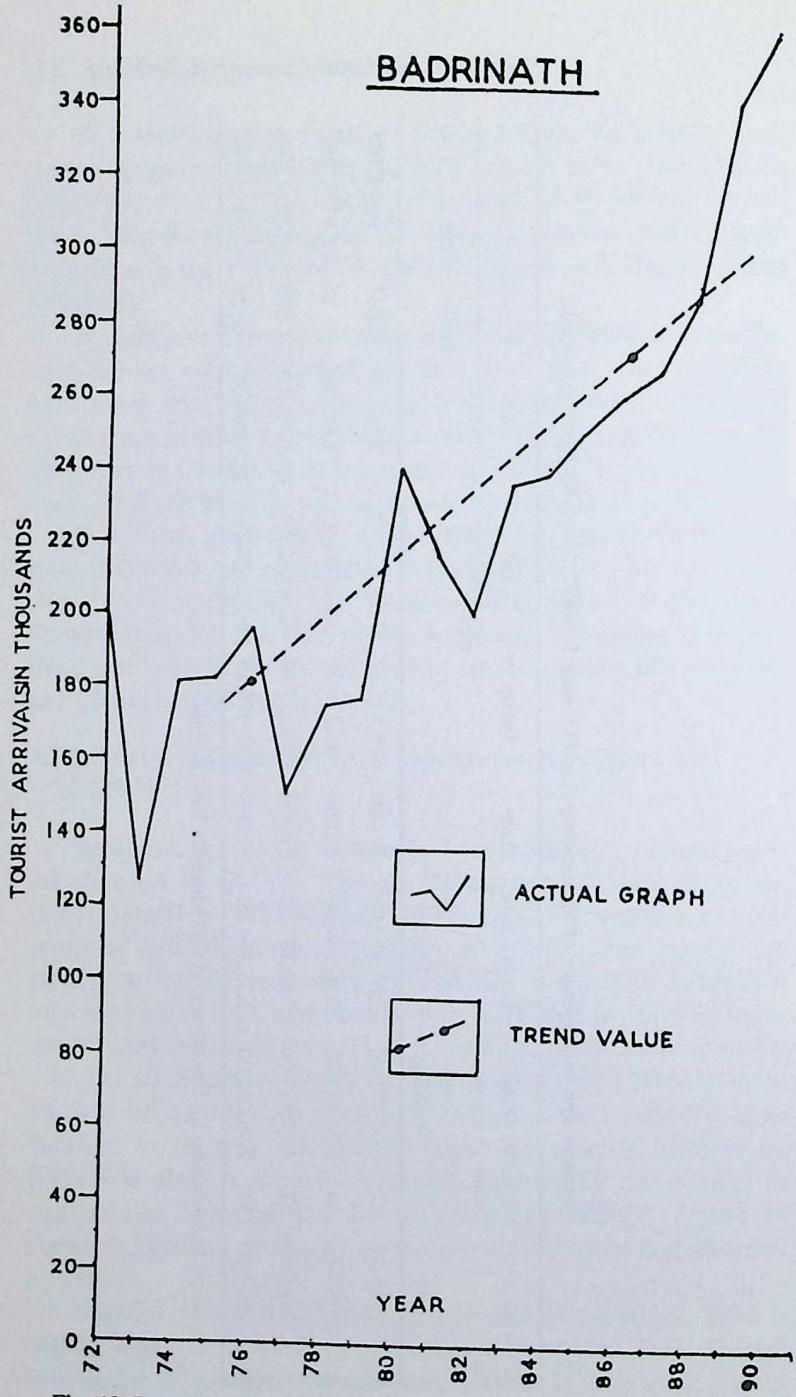

Fig. 13. Long term trend in tourist/pilgrim arrivals in Badrinath.

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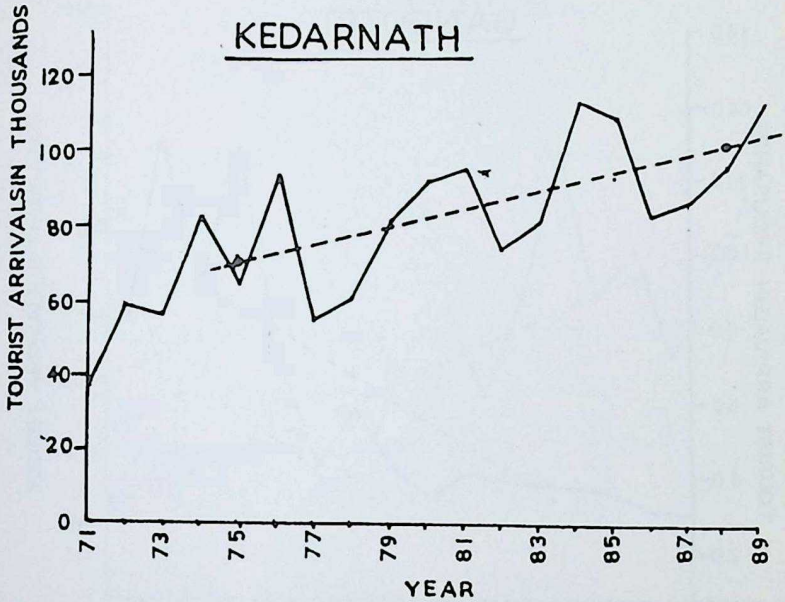

Fig. 14. Long term trend in tourist/pilgrim arrivals in Kedarnath.

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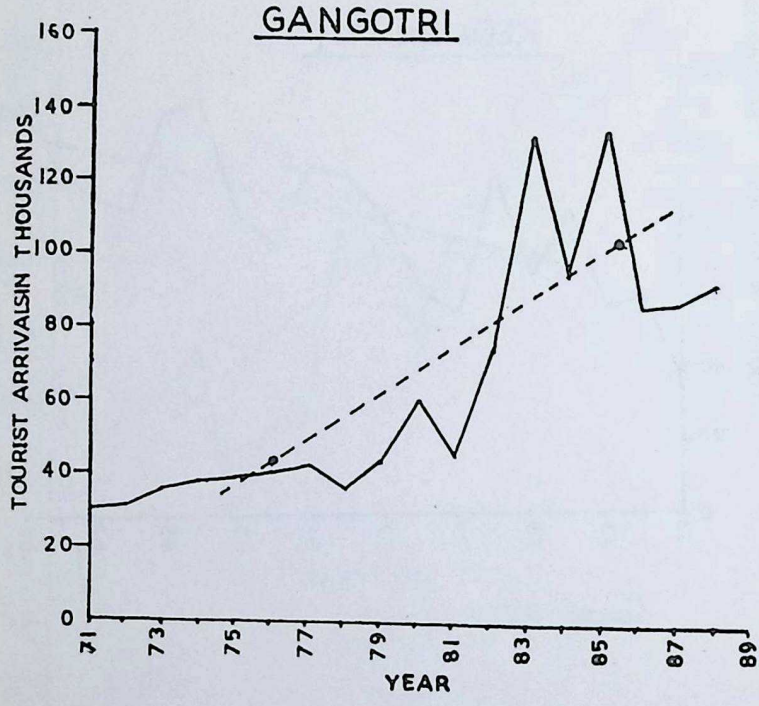

Fig. 15. Long term trend in tourist/pilgrim arrivals in Gangotri.

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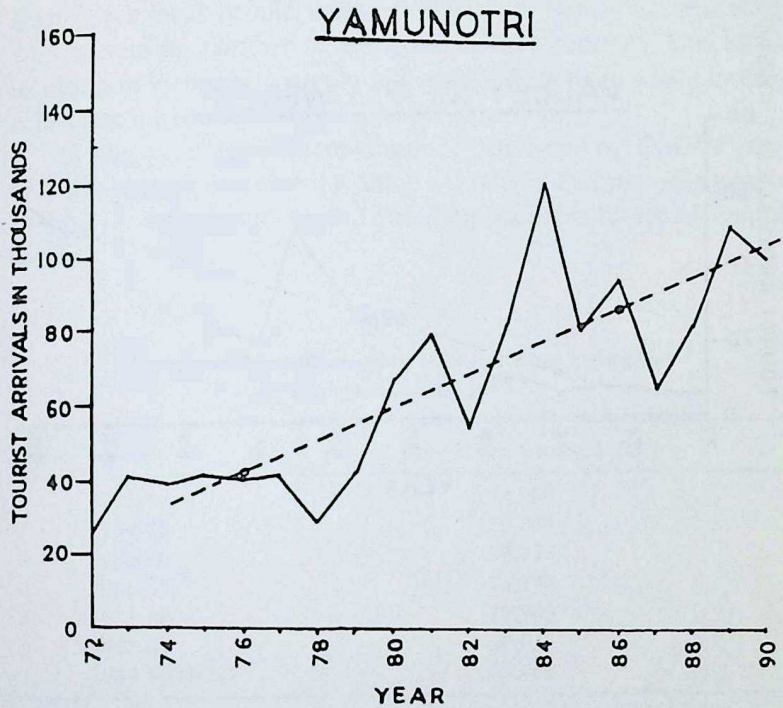

Fig. 16. Long term trend in tourist/pilgrim arrivals in Yamunotri.

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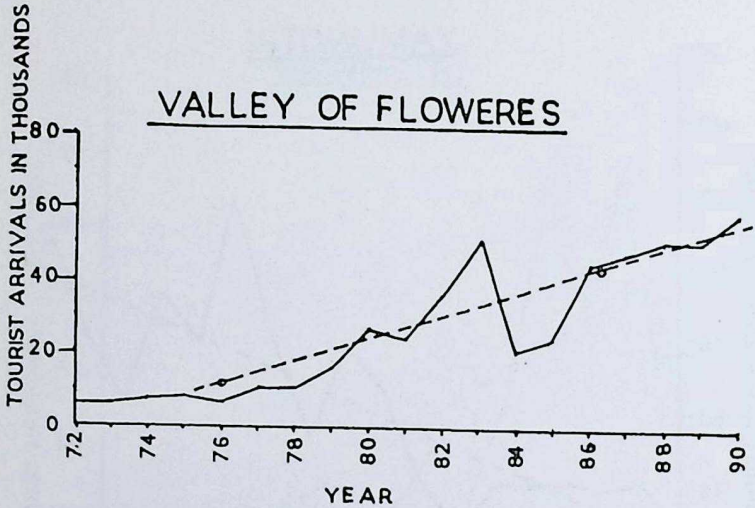

Fig. 17. Long term trend in tourist/pilgrim arrivals in Valley of Flowers.

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the total tourists who visit Garhwal, nevertheless we can safely deduce that a large sum of money comes into circulation every year in Garhwal during season. This also creates hundreds of employment opportunities for the local people—porters, guides, cooks, high altitude porters, travel agents (though mostly the menial jobs are created for local people today). Velocity of money is increasing with increasing number of activities in the economy. This all is resulting in increase in supply of goods and services which in turn accelerate the economy in progressive direction.

In the year 1983 Mountaineering Division of GMVN purchased climbing equipment worth Rs. 3,04,970 and started giving it on hire for earning money and providing facilities to the adventure tourists.

TABLE 4.9

Income of Mountaineering Division from hiring the equipment since 1983

S. No.	Year	Hire charges earned (Rs.)
1.	1983-84	14,000
2.	1984-85	29,009
3.	1985-86	53,756
4.	1986-87	73,840
5.	1987-88	22,905
6.	1988-89	40,015
7.	1989-90 (July)	05,665
		2,39,190

Source: Mountaineering Division, GMVN, Muni-ki-Reti, Rishikesh.

Table 4.9 shows that till July 1990 Mountaineering Division earned Rs. 2,39,190 on the investment of Rs. 3,04,970 for the equipment, and still it has got the store of that equipment which will be given to the tourists on hire in future also. This investment worked as a catalyst which encouraged mountain tourism in Garhwal. This type of investment (purchase of equipment and construction of accommodation) contributed a lot to the promotion of mountain tourism. A trekker or mountaineer who reaches Rishikesh without own mountaineering equipment knows that his/her pro-

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gramme will not suffer due to unavailability of equipment now. Such equipments are available on hire at Uttarkashi and Joshimath as well.

At present there exists a network of tourist rest-houses all over Garhwal region. Though even today tourism is a seasonal activity here, but time is not far away when it will become round the year affair in Garhwal as it is in Europe or Nepal. These rest-houses and transport system of GMVN are also earning quite a lot and popularising Garhwal as summer destination of tourists. This has been shown in Fig. 18.

TABLE 4.10

Number of package charted tours conducted by GMVN and income accrued (1977-89)

S.No.	Year	Total No. of tours	No. of tourists	Income in Rs.
1.	1977-78	132	2582	3,77,168.00
2.	1978-79	82	1809	3,98,409.06
3.	1979-80	114	2892	3,20,755.84
4.	1980-81	120	3061	8,08,739.00
5.	1981-82	130	2880	11,81,313.00
6.	1982-83	164	3153	15,01,838.00
7.	1983-84	211	4234	22,19,435.00
8.	1984-85	280	8910	31,24,024.28
9.	1985-86	274	6272	37,88,350.00
10.	1986-87	299	6861	38,63,171.41
11.	1987-88	237	5237	44,46,067.00
12.	1988-89	285	4667	56,45,998.00
13.	1989-90	251	4620	58,63,865.00

Source: Yatra Office, GMVN, Muni-ki-Reti, Rishikesh.

Table 4.10 and Fig. 19 show that the income from package charted tours conducted by GMVN is increasing rapidly since 1977. In the year 1977-78 the income was 3,77,168.50 which went upto Rs. 58,63,865 in the year 1989-90. Within this small span of time, tourism income increased many-fold. This expenditure and income has encouraged the construction of accommodation, restaurant, eating houses, shops and souvenir industry in the

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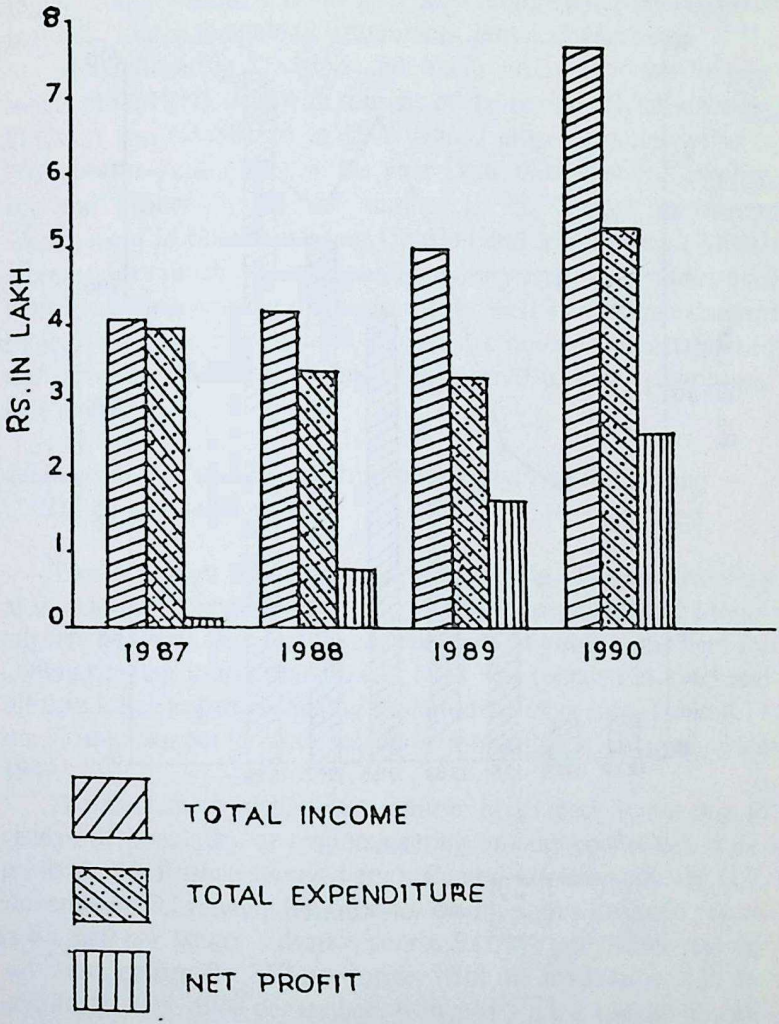

Fig. 18. Income vs expenditure of Mountaineering Division, GMVN, Dehradun.

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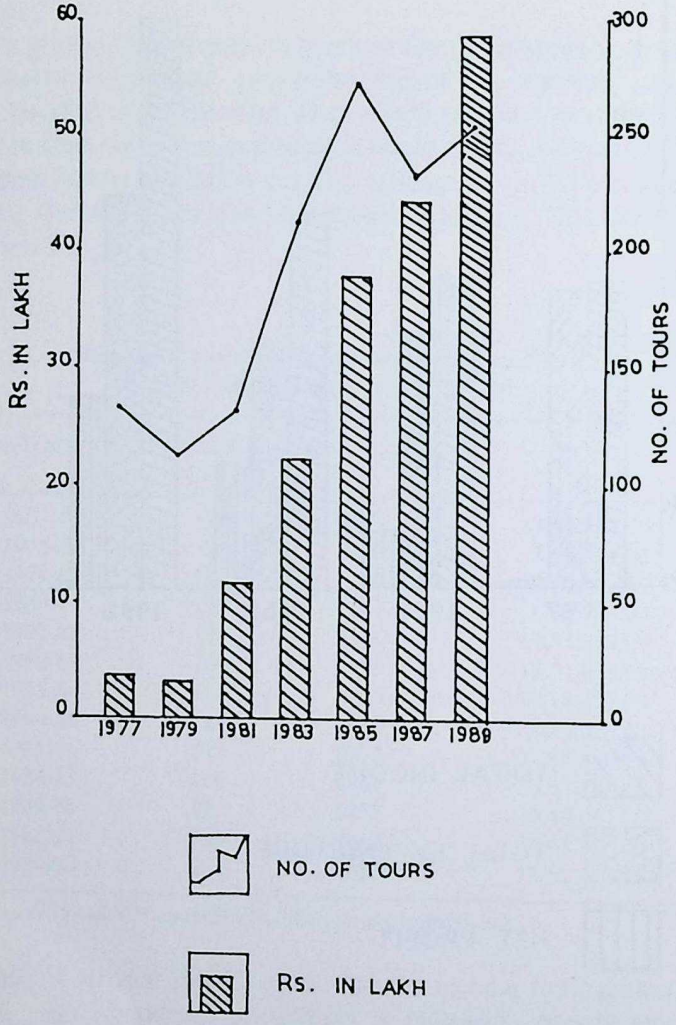

Fig. 19. Number of package charted tours conducted by GMVN and income accrued (1977-1989).

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region. Simultaneously it has generated employment opportunities in hotels, tourist bungalows, restaurants, inns and shops etc.

Mountaineering Division and Yatra office (the two departments of GMVN), deal with tourists of the region. Mountaineering Division was established in 1976 with 7 employees and officers. Similarly in Yatra office, in the year 1986, there were 53 employees and officers, today the number is 95. Though permanent employment in Mountaineering Division and Yatra office couldn't increase very much, but seasonal, temporary employment increases with increasing number of tourists. It is well known that tourism projects generate employment, but its size couldn't be established and developed here easily due to haphazard tourism growth and lack of data base.

4.6 Mountaineering Institute and its Impact on Mountain Tourism Development

The institution which is imparting training in mountaineering as well as promoting it in Garhwal, is the Nehru Institute of Mountaineering, Uttarkashi. Every year hundreds of youth come here for getting training in mountaineering. NIM was founded in 1965 and till date it has imparted training to thousands of people. Table 4.11 shows the number of trainees and the courses conducted since 1981.

The fluctuation in the total number of trainees is not due to change of popularity of mountaineering among youths but it depends on the finance received from Central Government and U.P. Government for running the courses. Training fees for basic course is Rs. 650 per trainee, advance course Rs. 650 per trainee and for adventure course Rs. 350 per trainee. But the Institute spends approximately Rs. 5000 per trainee. It involves a big sum of money, manpower and activity on the mountains. It can be safely inferred that mountaineering courses are not only popularising this adventure sport in the region but simultaneously accelerating the physical and economic activities in the region. Instructors, doctors, administrators, porters, washermen and cooks etc get jobs directly. This activity creates demand for climbing equipments, clothing, food and tentage. So indirectly the suppliers of these things get demand

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TABLE 4.11

Trainees trained from NIM for various courses from 1981 to 11 Nov. 1988

S.No.	Year	Basic course		Advance course		Adventure course		MOI course		S & R course		Pre-course		Rock climbing		Guide		Grant		Total
		M	W	M	W	Boys	Girls	M	W	M	W	M	W	Boys	Girls	M	W	M	W	
1.	1981	146	29	19	12	101	22	-	-	-	-	12	7	139	39	-	-	417	109	526
2.	1982	132	22	32	10	109	29	-	-	-	-	16	11	142	25	-	-	431	97	528
3.	1983	147	32	26*	9	153	39	-	-	-	-	*35	15	191	37	-	-	517	117	634
4.	1984	278	46	38	13	171	84	-	-	-	-	18	-	417	10	-	-	920	153	1073
5.	1985	227	59	48	10	135	91	-	-	-	-	-	-	238	35	-	-	648	195	843
6.	1986	143	41	50	13	143	39	-	-	-	-	8	7	106	48	-	-	450	148	598
7.	1987	175	45	66	22	118	66	21	5	26	-	-	-	72	27	-	-	478	165	643
8.	1988	166	41	50	12	84	89	19	3	20	-	9	-	63	8	17	-	428	153	581

*In 1983 there was a mix IMF course conducted by NIM.

Source: NIM, Uttarkashi.

M = Man, W = Woman, MOI = Method of Instruction course, S&R = Search and Rescue course.

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for their stuff and this demand creates employment opportunities for others. Medlic rightly said, "Tourism as a source of employment, is particularly important for areas with limited alternative resources of employment, as is often the case in non-industrial areas difficult in natural resources other than scenic attraction and climate."[5]

Tata Economic Consultancy Service studied the employment potential of tourism in India and concluded that the likely direct and indirect employment from foreign tourism from 1985 to 1990 may be as follows:

TABLE 4.12

Employment	Year 1985	Year 1990
Lowest employment	2,22,700	4,73,300
Highest employment	2,61,700	5,49,000

Source: Employment Potential of Tourism in India, Vol. I, Summary and Recommendations, August 1982, Tata Economic Consultancy Services, p. 435.

Tata Consultancy Services aspected employment generation by domestic tourism in 1990, approximately 9.2 lakhs in the tourism industry of the country.[6] But due to lack of data base it is difficult to project the employment generation capacity of mountain tourism in Garhwal. Infrastructural facilities and mountains of Garhwal are attracting increasing number of expeditions to Garhwal.

4.7 MOUNTAINEERING EXPEDITIONS TO INDIA & GARHWAL HIMALAYA

Mountaineering got momentum in India with the ascent of Everest by Edmund Hillary and Tenzing in 1953. Though Nanda Devi region was a preparatory ground for foreigners from the early 20th century but commercial adventure tourism entered in Garhwal Himalaya very late (in the decade of seventies of 20th century). Gradually the number of mountaineering expeditions to the region is increasing. Tables 4.13 and 4.14 explains the condition.

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TABLE 4.13

Number of foreign expeditions to Indian Himalaya

S.No.	Year	Total foreign exp.	Garhwal	J&K	H.P.
1.	1981	64	30	28	6
2.	1982	72	37	24	11
3.	1983	68	36	24	8
4.	1984	58	29	19	10
5.	1985	62	24	26	12
6.	1986	52	26	26	-
7.	1987	63	33	24	6
8.	1988	61	30	25	6
9.	1989	-	-	-	-
10.	1990	71	36	25	6

Source: Indian Mountaineer, Issue Nos. 10, 13, 16, 17, 19, 21, 23, 25.

TABLE 4.14

Number of Indian expeditions to Indian Himalaya

S. No.	Year	Total Indian exp.	Garhwal	J&K	H.P.	Sikkim
1.	1981	74	46	6	15	7
2.	1982	90	38	12	30	7
3.	1983	55	25	4	21	-
4.	1984	91	54	7	26	4
5.	1985	76	48	6	20	2
6.	1986	97	44	9	38	-
7.	1987	103	48	9	43	3
8.	1988	108	59	13	34	2
9.	1989	N.A.	44	-	-	-

Source: Indian Mountaineer, Issue Nos. 10, 13, 16, 17, 19, 21, 23 and 25 and NIM, Uttarkashi.

The above two tables clearly prove that Garhwal is the most desired destination of mountain climbers and adventure lovers. Though Garhwal is far behind in facilities (infrastructure) but the challenging peaks of Garhwal are highly attractive for Indian as well as foreign climbers. Figure 20 shows the foreign and Indian mountaineering expeditions in India.

These expeditions spent a lot of money on food, equipment,

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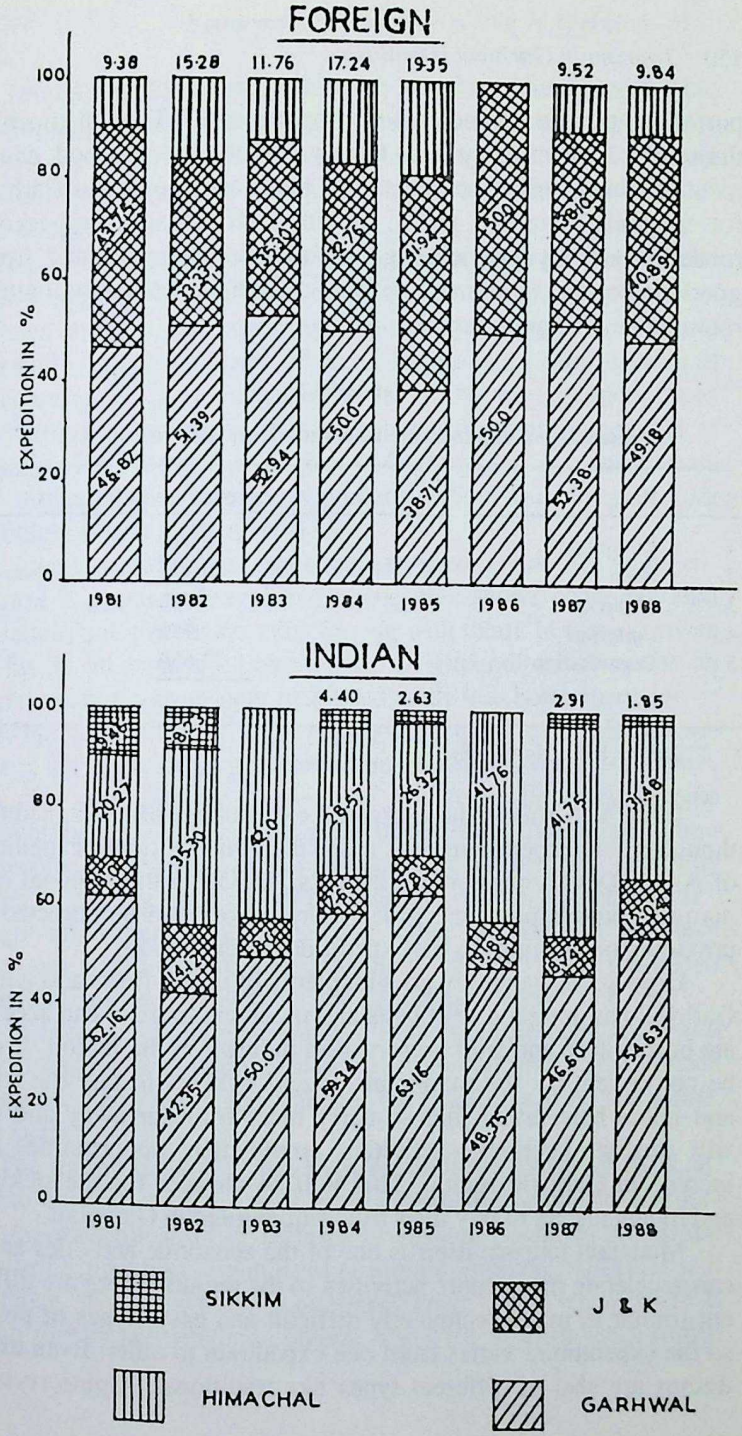

Fig. 20. Mountaineering expeditions in India (1981-88).

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porterage, transport, medicine and organisation. Though much of the money is spent away from Garhwal in purchase of food, equipment, clothing, medicine but part of the money comes to Garhwal for arranging porterage, guide, cooking staff, transport and accommodation etc. By providing good food, tinned juices and fruits, good clothes and equipment on hire in Garhwal itself it will attract more money from the expeditions.

TABLE 4.15

Summary of expenditure of Nanda Devi expedition 1981

S.No.	Head	Expenditure in Rs.
1.	Equipment	1,70,415
2.	Food	40,323
3.	Medicines	5,700
4.	Porterage	42,750
5.	Organisation	23,650
		2,82,838

Source: IMF, New Delhi.

Table 4.15 shows the estimated expenditure of the expedition though actual expenditure was more than this. A single expedition of Nanda Devi brought more than Rs. 42,750 in the regional economy as porters payment. Much more money can be attracted by providing other things to the expeditions in the region.

Expeditions generally go with plenty of tinned fruits and juices. Garhwal has got good fruit belts and mountain tourism can accelerate horticulture and fruit preservation industry in the region. It will be convenient for the mountaineers and trekkers to buy the fruits and juices here rather than to carry them from far away and this will generate economic activities, employment opportunities and income in Garhwal region. This will be cheaper for the trekkers and mountaineers to buy their fruit requirement in Garhwal.

Mountain tourism itself is one of the economic activities and it can accelerate many more activities in the region. There are different (minor to major technically difficult and easy) types of peaks, so the expenditure varies from one expedition to other. Even expeditions are also of different types like traditional, Alpine style or

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solo. Though the Alpine style has been introduced here recently but solo climbing hasn't approached Garhwal yet. So the expenditure of these expeditions (different styles) varies a lot. The one thing that is common to all kinds of expeditions is that a lot of money has got to be spent.

This money accelerates many economic activities in the regional economy. Hence it can be said that money spent by a tourist circulates through the economy and stimulates it, as it changes hands and is spent a number of times. It creates a chain reaction in the economy and the constant turn over of the tourist expenditures is known as the multiplier effect. Though at present the concept of tourism multiplier is not very clear in Garhwal but in coming years when this adventure tourism is properly established, there will be no problem in calculating multiplier.

Expenditure of tourists on transport, accommodation, food, entertainment, goods and services becomes the income of the regional population, but it never remains forever with them. In fact, it moves very fast to other hands. For example the expenditure of tourist on accommodation never gets stagnated with the hotel manager or owner but he also spends it for paying the bills of telephone, housekeepers, servants, other personnel and goods and services. Hence, it can be said that the expenditure of tourist becomes income for local people, but a little later it becomes their expenditure and income for another group of people in the society. This way transfer of money goes on till the leakage—payments for imports, foreign investments, hoarding and other diversions that take money out of the region. Thus, this unbroken series of conversion of visitors' money constitutes the multiplier effect. The leakage may be because of savings, imports (clothes, equipment, food, and other infrastructural things), investment abroad and travel outside the region. The greater the leakage, the smaller will be the multiplier factor.

The multiplier effect of tourist expenditure varies from economy to economy. Leakage of money from the economy discourages the multiplication of income. In affluent countries which are more self reliant and less in need of foreign imports, multiplier will be higher. "Even for those economies" Peter says, "where there is a high import and leakage content, it is hard to visualise a multi-

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plier of less than two."[7] It shows that tourism expenditure has got tremendous capacity to accelerate money velocity and activities in the economy.

4.8 Regional Travel Agencies

This mountain tourism activity has induced some enterprising young men to become travel agents in Garhwal. At present there are seven travel agencies in Uttarkashi and many more are coming up. Prior to the closure of Nanda Devi sanctuary, many travel agencies mushroomed at Joshimath. But the closure of Nanda Devi national park in 1982 gave way for the closure of these agencies. This closure created unemployment and frustration among the local people. Mountain tourism was about to take off in Chamoli district, when there was sudden closure to adventure activities in the region.

Table 4.16 shows the income generated by mountain tourism in travel agency business in Uttarkashi.

Table 4.16

Mountaineering/Trekking expeditions conducted by travel agencies in Uttarkashi and income accrued (1989)

S.No.	Name of Agency	No. of Indian expeditions	No. of foreign expeditions	Income Rs.
1.	Mountain support	20	12	79,395
2.	Mountain guide	11	7	1,93,300

Source: Mountaineering Support, Uttarkashi.
Mountaineering Guide, Uttarkashi.

Mountain tourism is a seasonal activity in Garhwal. The season is of five-six months. Within this span of time travel agencies are earning quite a large sum of money. These agencies at present provide porters, guides, cooks, equipments, clothes, tents and make arrangements of transport and accommodation.

Due to the closure of Nanda Devi region for mountaineering and trekking, Gaumukh is attracting large crowds of adventure tourist every year and truly speaking it has become the focal point of adventure activities.

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4.9 Sample Study

A sample study of Gangotri (a religio-tourist resort) has been conducted in 1990.

Gangotri is situated in between 31° N lat 78°5' long, at the confluence of Bhagirathi and Kedar Ganga. This small seasonal township of Gangotri was declared as a revenue village by the U.P. Government in 1960. Construction of a giant iron bridge over Jadh Ganga river at Bhairoghati in 1985 resulted in larger number of tourists and pilgrims to Gangotri.

Physical Setting, Climate and Flora & Fauna

The altitude variation is between 9000 ft and 26000 ft. Slopes towards river are more than 50 degree, therefore more prone to landslides, erosion and instability. Climate of the region is greatly influenced by the height. This micro-climatic zone is situated in between cold and Alpine zone. Most prominent among the trees are deodar, blue pine, fir, spruce and birch. Among the animals black bear, brown bear, wild boar, blue sheep, musk deer, langoor and barking deer are found here. Common avifauna is pigeon, pheasant (chir, koklas, khaliz and monal) and chough etc.

Population and Settlement Pattern

The population of Gangotri township is increasing rapidly. Even female population is also coming up now. See Table 4.17.

Table 4.17

Population of Gangotri

S. No.	Year	Population	Male	Female	Sex ratio/ 1000 male	Population change/ decade	Percentage increase/ decrease
1.	1961	12	12	-	-	-	-
2.	1971	9	9	-	-	-3	-25
3.	1981	123	117	6	51	+114	+1266.66

Source: Indian Census 1981.

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TABLE 4.18

Employment Pattern

S. No.	Year	Working force number	Percentage of total population	No. of non-working population	Total population
1.	1961	-	-	12	12
2.	1971	-	-	9	9
3.	1981	87	70.73	36	123

Source: Indian Census 1981.

According to 1981 Census there were 51 families and 49 houses. These houses were constructed with stone, timber and slate, but now these have been replaced by bricks, cement and tin. Barring exceptions, residential standard is not good in general. In 1990 the number of houses increased to 70. Haphazard building construction created the problem of poor water supply, sanitation, drainage, sewer and garbage disposal.

Infrastructure

An integrated package of infrastructural facilities is the prerequisite for an area's development in general and tourism in particular.

Communication and Transport

Road is the only means of communication to Gangotri, Bus stop and parking area is very congested (only 900 sq m). Condition of vehicular traffic is shown in Table 4.19.

TABLE 4.19

Size of transport and its distribution

S. No.	Year	No. of heavy vehicles	No. of light vehicles	Total
1.	1987	2540	2037	4577
2.	1988	3979	3007	6986
3.	1989	3148	3273	6421
4.	1990 (May-July only)	2045	1943	3908

Source: S.P. Office, Uttarkashi.

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Community Facilities and Services

1. School: There is no school in Gangotri.
2. Health: There is one Ayurvedic dispensary and one Allopathic first aid centre.
3. Post office & Police post: There is a post office and a police check post in Gangotri.

This temple-cum-tourist township lacks banking facility, petrol pump, information centre, park, art and recreation centre and developed camp sites.

Necessary Physical Facilities

Drinking Water

Garhwal Jal Sansthan provides water round the clock. There are four public taps. No water scarcity at all.

TABLE 4.20

Gangotri water supply source

S.No.	Source	Flow in litre/ minute	Date of measurement litre/minute	Flow of water in use litre/minute
1.	Hamkayagad	4500	29.4.1980	
	gadhera	1080	10.6.1983	1080
		1080	15.5.1984	

Source: Survey Department, U.P. Jal Sansthan, Uttarkashi. Total flow maintained 1080 × 60 × 24 = 15,55,200 litre/day.

Drainage & Sewage

There is no hygienic system of drains and sewer and every drain ultimately gets submerged into Bhagirathi river. Health Department Uttarkashi every year constructs three pakka and seven temporary gunny bag toilets on the banks of river Bhagirathi. Ten sweepers get temporary employment for such large floating population every year.

Electricity

There is a 15 KW generator installed by UPSEB, but due to higher altitude, it generates only 10 KW. Five KW for the temple

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and rest for the two ashrams. Mandir Samiti has got a generator of 2 KW which covers the temple surroundings. Rest of the township depends for light and fuel on kerosene oil and wood. There is acute shortage of electricity. Hydro power and solar energy can be utilised for this purpose here.

Landuse Pattern

Land use pattern is very different here. Residential, commercial and public amenities are covering 27.08 percent of the total area, but everything has come up in such a manner that it is spoiling the aesthetics of the region.

TABLE 4.21

Present land utilisation in Gangotri (1986)

S.No.	Landuse	Area in hect.	Total percent
1.	Residential	2.75	18.95
2.	Commercial	0.04	0.27
3.	Public & semi-public facilities	0.18	1.24
4.	Communication & Transport	0.96	6.62
5.	Forest	1.63	11.23
6.	River/Rivulets	4.77	32.87
7.	Open area	3.40	23.44
8.	Rocky land	0.78	5.38
	Total	14.51	100.00

Source: Gangotri Development Plan, 1986-96.

Table 4.21 shows that largest area, 4.77 hectare is under water system. Second largest 3.40 hectare is the open area, but residential, commercial and other facilities have covered 3.93 hectare only. Figure 21 shows the settlement pattern of Gangotri. Firstly the infrastructure is very little, secondly the mushroom growth is very lousy and scarce in comparison to the size of users. In 1990, the number of tourists to Gangotri was 1,08,175.

In this tourist/pilgrim resort floating population is increasing every year. Gangotri with a residential population of 123 (1981 Census) entertained 43504 tourists/pilgrims in 1981 with a host-guest ratio of 1:353. Therefore an attempt has been made for pre-

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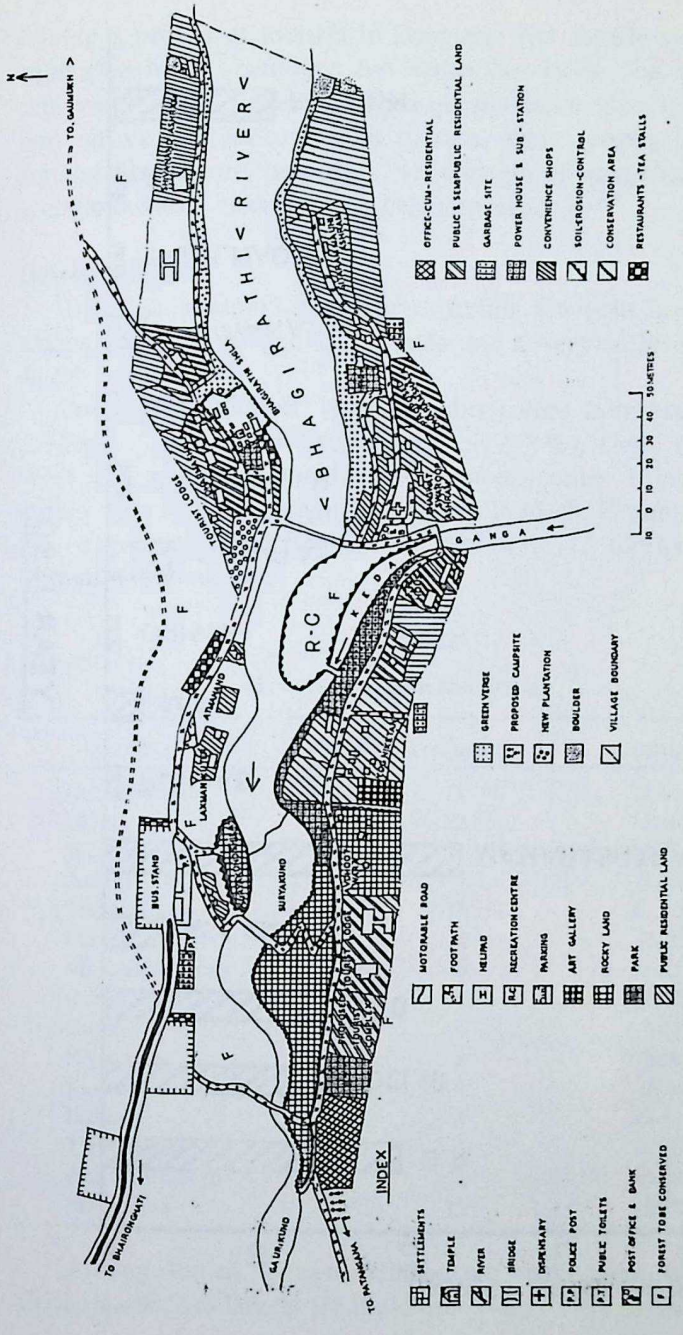

Fig. 21. Gangotri conservation and development 1986-96.

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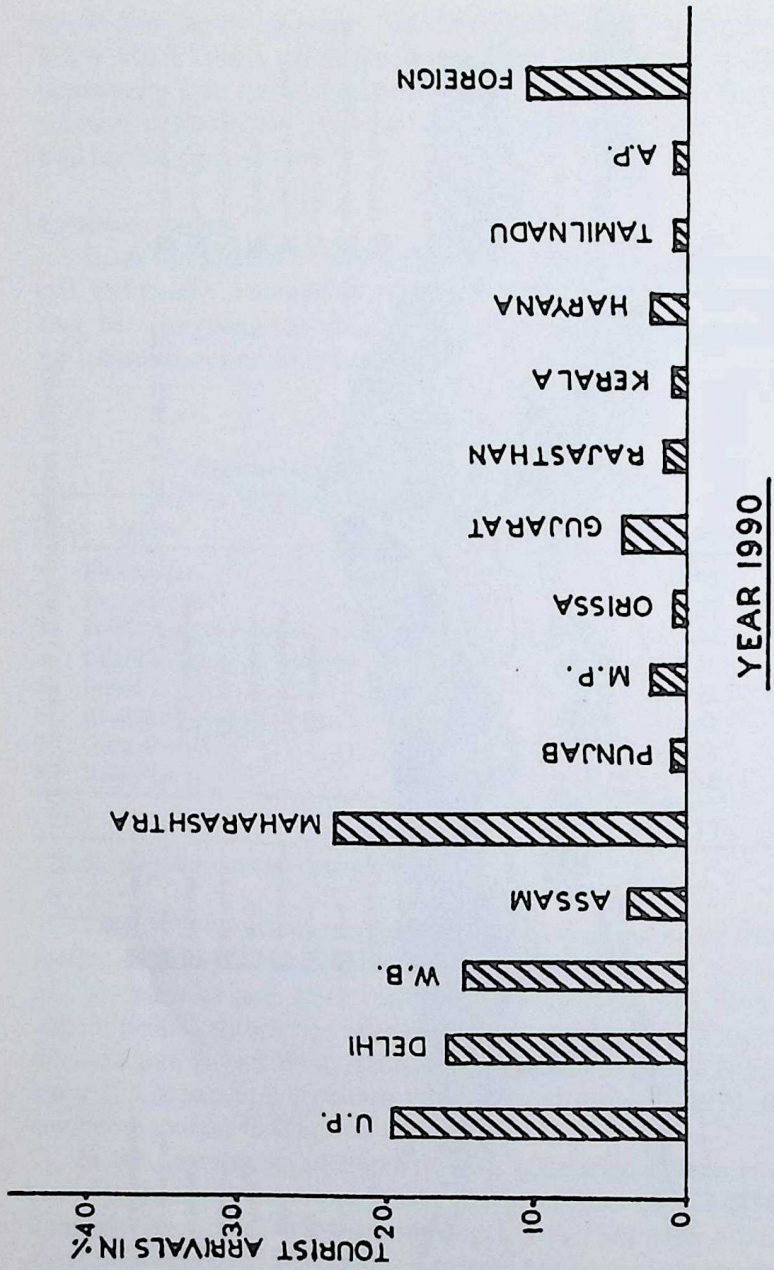

Fig. 22. Tourist/pilgrim in Gangotri: Indian and foreign.

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senting a profile of tourists in Gangotri. The sample survey was conducted in between June and September 1990. The results are achieved through a well designed questionnaire seeking information on various aspects from tourists, their geographic origin, demographic nature, purpose of visit, length of stay, transport and accommodation, income and expenditure etc.

Demographics

Based on random sample survey results, Gangotri finds a place among the pilgrims/tourists of India and adventure lovers of the world.

Among 142 tourists, largest number comes from Maharashtra (23.23%) followed by Uttar Pradesh (19.01%), Delhi (15.49%), West Bengal (14.78%). Lowest number comes from Punjab, Orissa, Kerala, Tamil Nadu and Andhra Pradesh. Figure 22 shows the state-wise tourist frequency. There were 15 foreign tourists from different countries.

TABLE 4.22

Tourists—Indian and foreign

Indian	Frequency	Percent
Uttar Pradesh	27	19.01
Delhi	22	15.49
West Bengal	21	14.78
Assam	5	3.52
Maharashtra	33	23.23
Punjab	1	0.70
Madhya Pradesh	3	2.11
Orissa	1	0.70
Gujarat	6	4.22
Rajasthan	2	1.49
Kerala	1	0.70
Haryana	3	2.11
Tamil Nadu	1	0.70
Andhra Pradesh	1	0.70
Foreigners	15	10.58

Among Indian tourists, Hindus are the largest in number (91.33%), second largest are Buddhists. Gangotri-Gaumukh is most

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popular destination of young people. 64.5% of tourist are from the age group of 21-35 year. Figures 23 and 24 give the picture of religion and age group of the tourists.

TABLE 4.23

Tourist—Religion and age group (Indian)

S.No.	Religion	Below 20 years	21-35 years	Above 35 years	Total	Percentage
1.	Buddhist	-	3	1	4	3.15
2.	Agnostic	1	-	-	1	0.78
3.	Islam		2	-	2	1.57
4.	Christian	-	1	1	2	1.57
5.	Zoroastrian	-	2	-	2	1.57
6.	Hindu	15	74	27	116	91.33
Age group percent		12.60	64.57	22.83	127	100.00

TABLE 4.24

Foreign tourists

S.No.	Religion	Frequency	Percentage
1.	Christian	7	46.66
2.	Jews	3	20.00
3.	Humanist	2	13.33
4.	Agnostic	1	6.67
5.	Gott	1	6.67
6.	Hindu (Nepali)	1	6.67
	Total	15	100.00

All the foreigners are in between 21-25 years age group. Christians are largest in number (46.66%). This has been explained in Figure 24.

Mountain tourism activities are attracting quite a large number of tourists. 38.73 percent come for trekking, 28.16 for mountain climbing, 25.35 for religion and 7.74 for others.

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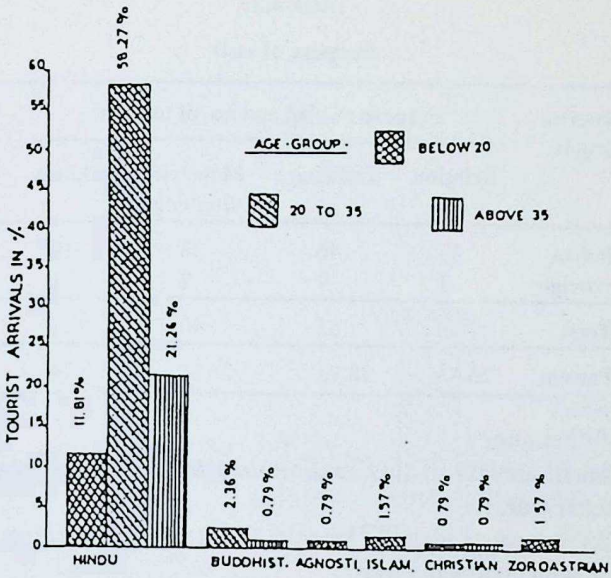

Fig 23. Indian tourist arrivals in Gangotri: Religion and age group (1990).

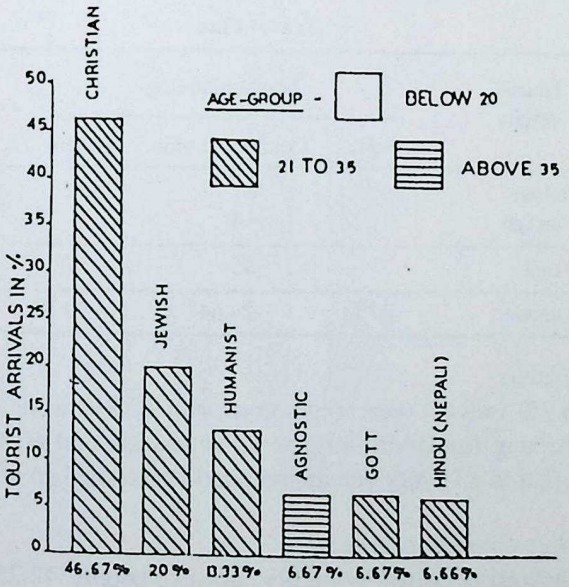

Fig 24. Foreign tourist arrivals in Gangotri: Religion and age group (1990).

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TABLE 4.25

Purpose of visit

S.No.	Tourist origin	Purpose of visit and no. of tourists				Total
		Religion	Trekking	Mountain climbing	Others	
1.	Indian	33	46	38	10	127
2.	Foreign	3	9	2	1	15
	Total	36	55	40	11	142
	Percent	25.33	38.73	28.16	7.74	100

Travel Planning

Tourist travels to this area mostly either by self plan or by conducted tour.

52.8% tourists visited Gangotri in self travel planning whereas 24.64% with conducted tour.

TABLE 4.26

Travel Plan

S.No.	Tourist origin	Travel planning			Total
		Self	Conducted tour	Others	
1.	Indian	64	31	32	127
2.	Foreign	11	4	-	15
	Total	75	35	32	142
	Percent	52.8	24.64	22.53	100

Food Habits

36.2% Indians were vegetarian, rest 63.8% were non-vegetarian. Among foreigners 40% were vegetarian and 60% non-vegetarian. But in all every one appreciated vegetarianism of Gangotri.

Socio Economic Background

Gangotri is visited by highly educated people, 42.25% graduate and 32.40% postgraduate. See Figs. 25 and 26.

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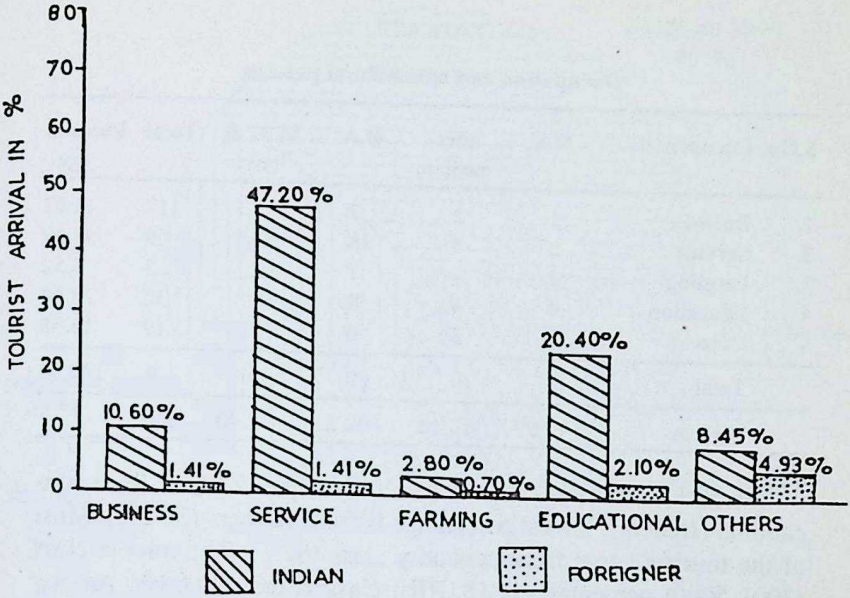

Fig. 25. Tourist arrivals in Gangotri: Occupation and origin (1990).

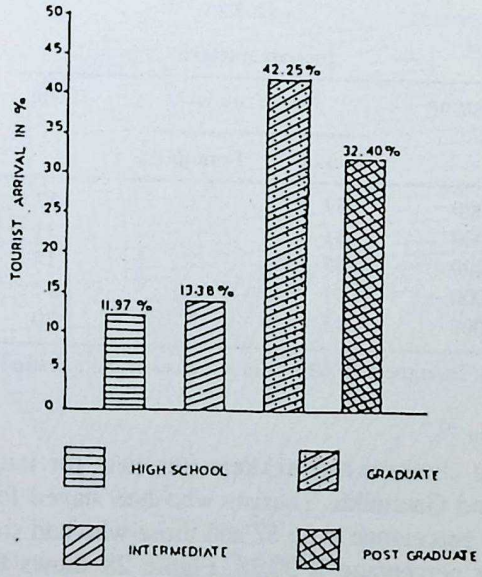

Fig. 26. Tourist arrivals in Gangotri: Education (1990).

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TABLE 4.27

Occupation and educational pattern

S.No.	Occupation	H.S.	Inter-mediate	B.A.	M.A. & above	Total	Percent-age
1.	Business	1	2	7	7	17	11.97
2.	Service	6	4	38	21	69	48.59
3.	Farming	2	-	1	2	5	3.52
4.	Education	4	4	8	9	32	22.54
5.	Others	4	2	6	7	19	13.38
	Total	17	19	60	46	142	100.00
	Percent	11.97	13.38	42.25	32.40	100	

48.59% of tourists come from service class, 22.54% from educational (student), lowest percentage is from farmers (3.52%). Most of the tourists come from economy class (62%). The middle class (3001-5000) percentage is 18. Rich class is only 14.08%. Among foreigners 5.63% never answered this question. See Fig. 27.

TABLE 4.28

Income pattern

S.No.	Income group Rs.	No. of tourist		Total	Percent
		Indian	Foreigners		
1.	Below - 2000	57	-	57	40.00
2.	2001 - 3000	31	-	31	21.83
3.	3001 - 4000	15	-	15	10.58
4.	4001 - 5000	11	-	11	7.74
5.	above - 5000	13	7	20	14.08

Note: Eight foreigners (5.63%) did not answer the question.

Length of Stay

Mountain climbers and trekkers stay here for longer duration and go beyond Gaumukh. Tourists who had stayed for more than 15 days their percentage is 36.62 and those who had stayed for 8 to 15 days their percentage is 30.28. Figure 28 shows the length of stay of the tourists.

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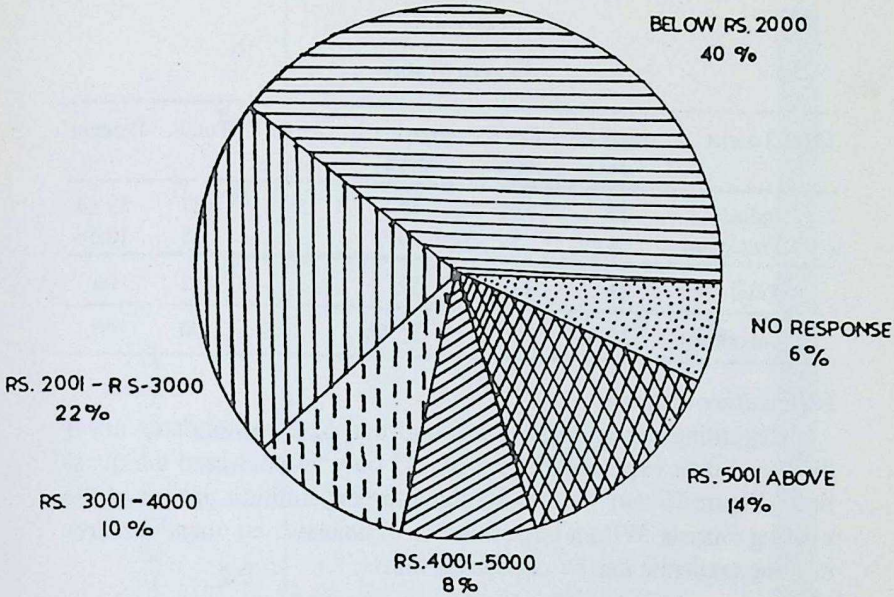

Fig. 27. Gangotri: Distribution of tourists (1990): Average income.

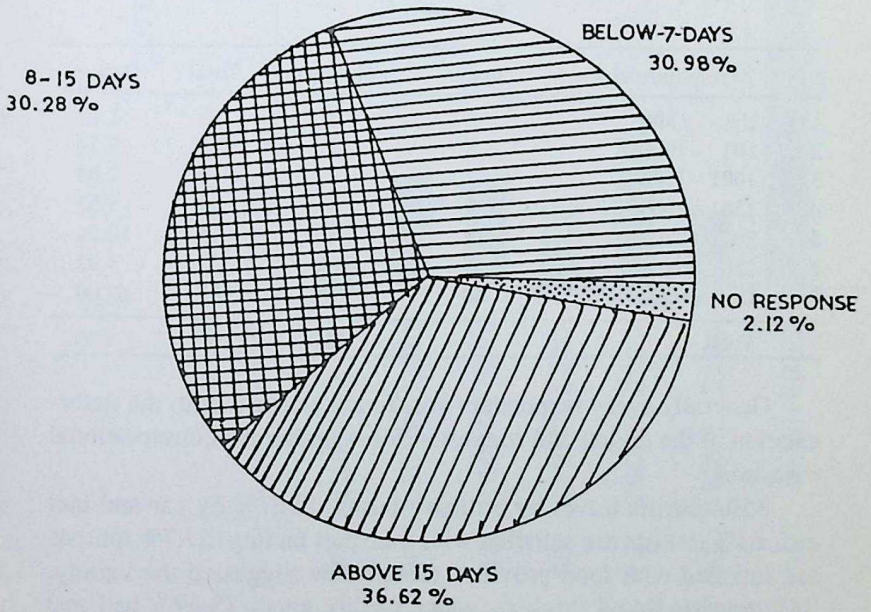

Fig. 28. Distribution of tourists: Length of stay in Gangotri (1990).

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TABLE 4.29

Length of stay

S.No.	Tourist	Below 7 days	8-15 days	Above 15 days	N.A.	Total	Percent
1.	Indian	40	38	46	3	127	89.44
2.	Foreigners	4	5	6	-	15	10.56
	Total	44	43	52	3	142	100
	Percentage	30.98	30.28	36.62	2.12	100	100

Expenditure Pattern

Regarding expenditure it is found that 62% respondents never disclosed their expenditure (out of 142 only 54 answered the question). Figure 29 and Table 4.30 show the expenditure pattern of the visiting tourists. With a large number of unanswered questionnaires nothing authentic can be concluded here.

TABLE 4.30

Expenditure

S.No.	Expenditure in Rs.	Indian	Foreigners	Total	Percent
1.	Upto - 500	2	1	3	2.11
2.	501 - 1000	8	3	11	7.74
3.	1001 - 1500	8	2	10	7.04
4.	1501 - 2000	8	-	8	5.63
5.	2001 - 2500	14	1	15	10.56
6.	2501 -above	7	-	7	4.92
7.	Unanswered	80	8	88	62.00
	Total	127	15	142	100

Generally every respondent was found alarmed with the deforestation of the region and suggested for adopting the conservational measures.

85% tourists travel by ordinary buses, 12.67% by car and taxi etc., 61% tourists are satisfied with transport facility. 57.7% tourists are satisfied with food provided though few suggested the variety. 38% tourists found drinking water facility good, 15.49% bad and

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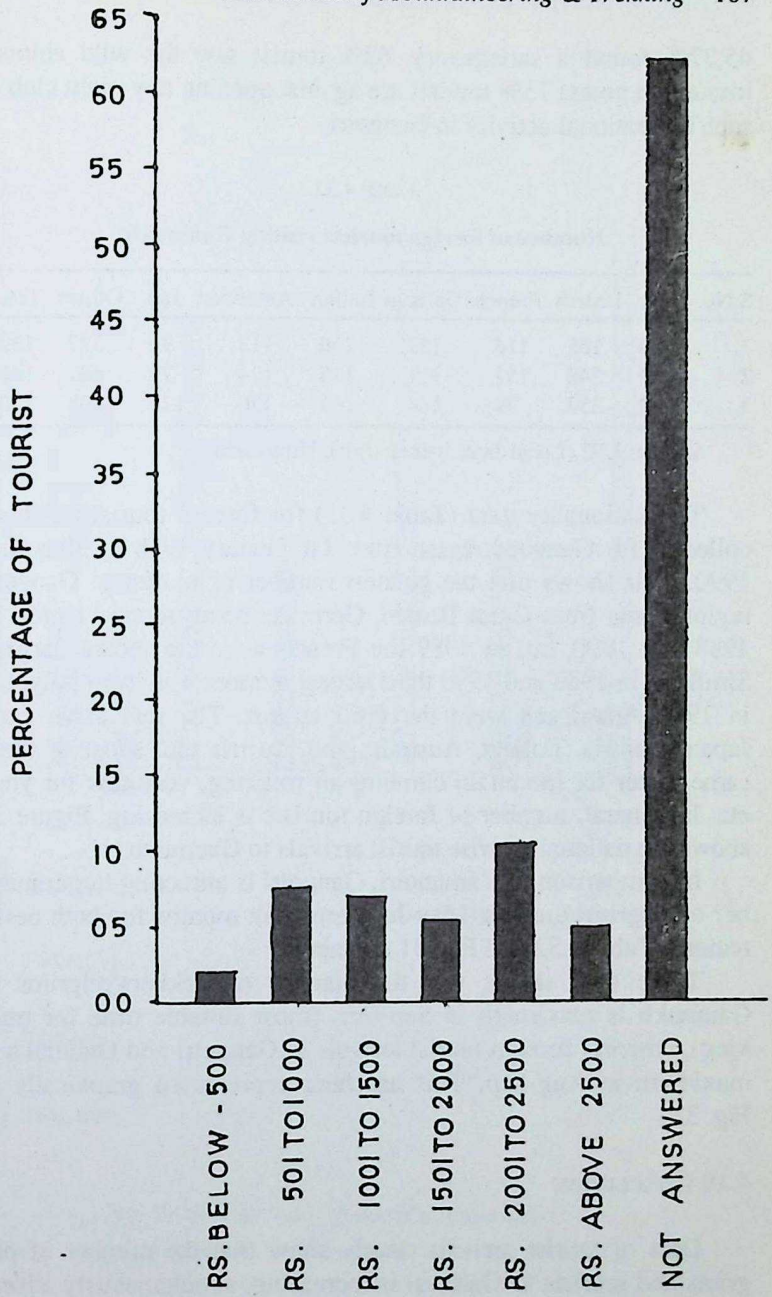

Fig. 29. Expenditure pattern of tourists in Gangotri (1990).

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45.77% found it satisfactory. 62% tourist saw the wild animals (mountain goats) 75% tourists are against opening any night club or such recreational activity in Gangotri.

TABLE 4.31

Number of foreign tourists visiting Gaumukh

S.No.	Year	British	French	German	Italian	American	Jap.	Others	Total
1.	1988	165	116	153	150	113	96	527	1320
2.	1989	246	152	117	115	124	79	601	1434
3.	1990	250	79	164	143	130	129	608	1503

Source: LIU (Local Intelligence Unit), Uttarkashi.

The nationality data (Table 4.31) for foreign tourist has been collected for Gangotri region from 1st January 1988 to 30th Sep. 1990. This shows that the greatest number of tourist to Gangotri region come from Great Britain, Germans being second largest in 1988 and 1990, but in 1989 the French were the second largest. Similarly in 1988 and 1990 third largest number was from Italy, but in 1989 Americans were the third largest. The rest came from Japan, Canada, Poland, Australia and Austria etc. Most of them came either for mountain climbing or trekking, very few for yoga etc. In general, number of foreign tourists is increasing. Figure 30 shows the nationality-wise tourist arrivals to Gaumukh.

In comparison to Yamunotri, Gangotri is attracting larger number of pilgrims/tourists. May-June are peak months for both destinations. Table 4.32 and Fig. 31 explain it.

Table 4.33 shows that the number of trekkers/pilgrims to Gaumukh is maximum in Sep-Oct. (most suitable time for trekking), whereas foreign tourist arrivals in Gangotri and Gaumukh is maximum in Aug-Sep. This has been represented graphically in Fig. 32.

4.10 CONCLUSION

Dáta of tourist arrivals clearly show that the number of pilgrims and tourists to Garhwal is increasing, simultaneously adventure activities are getting popular among the tourists. The number

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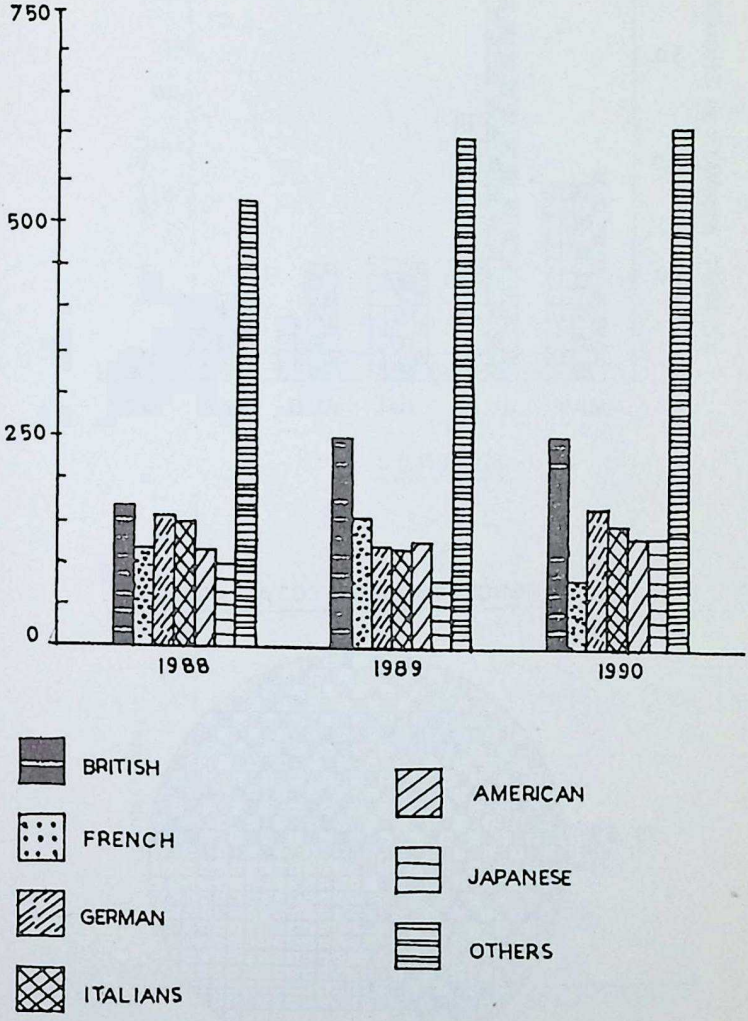

Fig. 30. Foreign tourist arrivals in Gaumukh.

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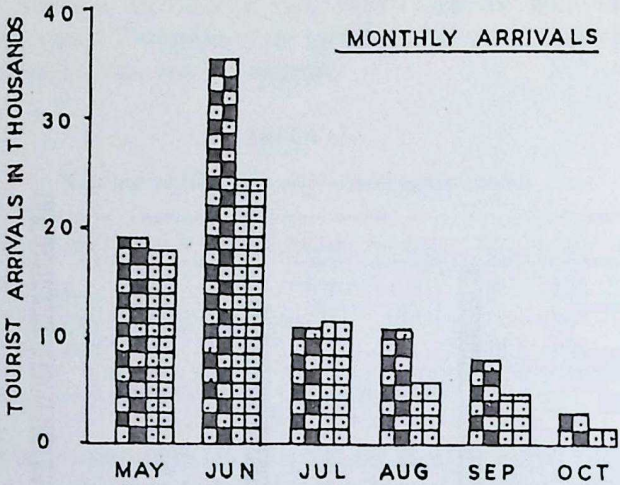

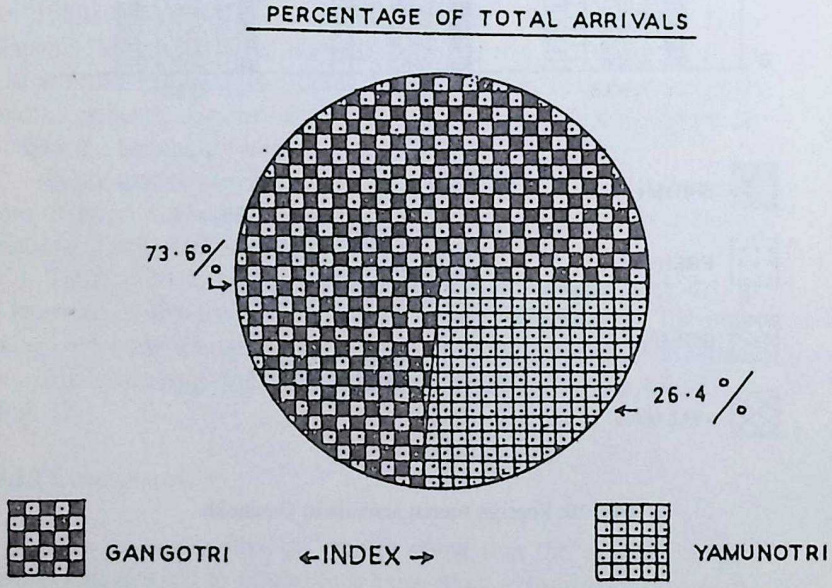

Fig. 31. Tourist arrivals in Gangotri and Yamunotri (1987).

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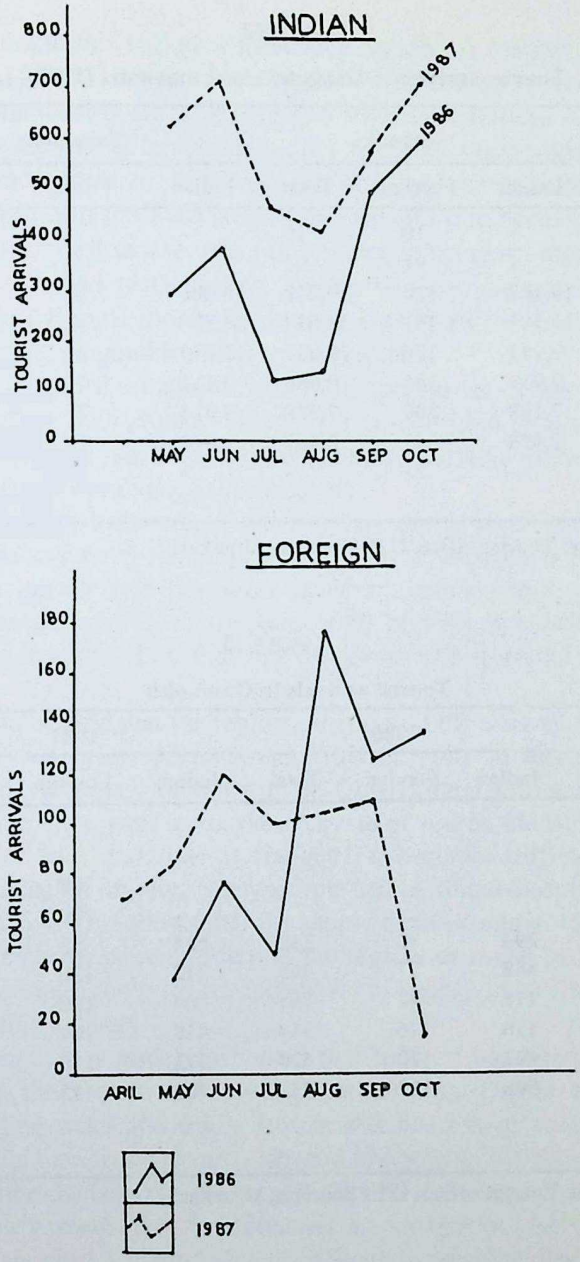

Fig. 32. Indian and foreign tourist arrivals in Gaumukh.

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TABLE 4.32

Tourist arrivals in Gangotri and Yamunotri (1987)

	Gangotri			Yamunotri		
Month	Indian	Foreign	Total	Indian	Foreign	Total
March	-	10	10	-	-	-
April	-	91	91	-	-	-
May	19,162	120	19,282	18,006	8	18,014
June	36,503	131	36,634	24,384	12	24,396
July	9,911	120	10,031	10,479	24	10,503
Aug.	9,919	146	10,065	5,111	46	5,157
Sept.	7,188	200	7,388	4,614	75	4,689
Oct.	2,424	43	2,467	874	10	884
Nov.	-	-	-	-	-	-
Dec.	-	-	-	-	-	-

Source: Tourist office, U.P. Tourism, Uttarkashi.

TABLE 4.33

Tourist arrivals in Gaumukh

	1986			1987		
Month	Indian	Foreign	Total	Indian	Foreign	Total
Jan.	-	-	-	-	-	-
Feb.	-	-	-	-	-	-
March	-	-	-	-	08	08
April	-	-	-	-	70	70
May	294	38	332	624	85	709
June	388	77	465	712	120	832
July	118	47	165	466	100	566
Aug.	138	176	314	418	104	522
Sept.	493	127	620	572	110	682
Oct.	598	137	735	702	15	717
Nov.	-	-	-	-	-	-
Dec.	-	-	-	-	-	-

Source: Tourist office, U.P. Tourism, Uttarkashi.

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of trekkers to this region is increasing rapidly. A marked tendency to regard Garhwal as tourist destination is becoming apparent.

Home tourists are mostly religio-adventure tourists. They want to touch the feet of temple deity, but simultaneously want to enjoy nature and adventure. In the months of May-June there is a crowd of pure pilgrims but from August onwards till October every one is a pilgrim as well as a tourist. For instance in Gangotri region every one wants to go to Gaumukh. During Dushera the crowd comes from West Bengal mostly. The main attractions are Ganga, Gangotri temple, Gaumukh and mountain scenery.

In General the main attraction for tourists in Garhwal during summers are Badri-Kedar, Gangotri-Yamunotri but in autumn it is Gaumukh, Tapovan, Tungnath, Rudranath, Kathling glacier, Dodital, Kedartal, Vasukital, Sahastrutal etc.

This religio-adventure tourism has given a momentum to Garhwals' economy (employment generation, increase in economic activity, income and development of entrepreneurship) and ecological awareness. These are some of the positive signs which indicate that tourism as an industry has come of age in the Garhwal region.

It can be said that the region experienced the warmth of activities due to tourism development. This is going to increase with further development of tourism. In fact regional infrastructure is not able to cope with increasing demand of tourist industry. In the months of May and June at Gangotri, it becomes difficult to get accommodation on rent. Many people can be found sleeping under the open sky. This shows that the supply force of tourist industry is weaker then the demand force in the region, or it can be said that there is enough room for the expansion of supply force (infrastructure) of this industry.

Though it is widely accepted that tourism has been the key factor in the growth and development of Char-Dhams and their surrounding treks and trails. But in this process of development better jobs have gone to outsiders and low jobs to the local people. Disequilibrium between the tourist demand and supply had fanned inflationary trends. But few economic advantages of tourism development are clearly visible, though difficult to measure exactly yet.

Apart from religious pilgrimage, adventure tourism too is

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approaching Himalayan heights with leaps and bounds. Tourists are enjoying typical Garhwal Himalayan environment and hospitality. Unique mountain scenery, snout of Gangotri glacier and snow-covered peaks will remain challenge for many in coming years too. But there is urgent need of more infrastructure building, maintenance of existing facilities and conservation of ecology in the region. Then only friendly and sustainable tourism development in Garhwal is possible.

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5

Impact of Mountaineering and Trekking

5.1 Introduction

Tourism is the most desirable and essential activity of modern man, and the cause of tourism varies from person to person and place to place. Since it promotes the spirit of adventure and undoubtedly has a great educative value, it involves a huge amount of capital as well as other factors of production to achieve different ends. Returns therefore, become important, more so because tourism is one of the invisible items of international trade. The expenditure the tourists incur affects the economy, society, culture and environment very much. When we talk about Himalaya and border districts of Garhwal, the issue becomes more sensitive as well as vital for growth and development.

The primary expenditure involved in accommodation, transport, food, souvenir and recreational services has a direct bearing on different spheres of tourist destinations. Tourism has led to a greater mobility of the population, and has become an industry and accelerated growth of many towns of distinctive features and brightened the horizon for millions. The main objectives of developmental policy are—increase of national revenue, increase in employment situation, income generating activities, increase in productivity, greater balance between various sectors of production, increase in foreign exchange earning, greater development of the region and finally of the country.

Basically, keeping all these things in view a developmental

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activity is launched and the moment such an activity gets accelerated the positive and negative impacts can be deemed as intended or unintended consequence. Tourism, declared as an industry, also exercises positive and negative effects.

Tourism can have economic, social, cultural, ecological and demographic impact.

5.2 Economic Impact

In recent years there has been a growing realisation of the potential of tourism in most countries. In certain countries tourism is the single largest foreign exchange earner. The income from tourism has tended to increase at a higher rate than merchandise export. Tourism is greatest employment generator too. It injects the external purchasing power into the host economy and accelerates economic activities. Since tourism deals with people rather than commodities, it is difficult to present accurate figures of its contribution towards the national income. But, the identification and recognition of the potential tourism resources is growing rapidly in most of the countries. It is much more pervasive in its economic impact. It diffuses the benefits of foreign exchange earnings into the remote corners of the country and works as stimulus to every sector of economy. It can bring benefits other than the more obvious and direct economic benefits of contributing to the balance of payments, increasing national income and providing employment opportunities, although quantification is difficult. There are very considerable social and economic benefits in the contacts made through visitors who develop new tastes and become interested in new activities. One of the fastest expanding sectors of the economies of most industrialised countries is leisure industry. "Tourism represents a significant part, but only a part of this much wider concept."[1]

The impact of tourism on the host country's economy is quite massive. Now a days, developed and developing, capitalist and socialist all countries of the world are trying to exploit their tourism resources for the economic development and growth. The Head of the Foreign Tourism Board of Russia, Ankudinov said, "Electronics, plastic, computer and many other new industries are expanding

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at a much faster rate than the old classical industries. But there is one industry for which rate of growth can well compete with any of the new comers. That industry is tourism."[2]

World tourism expenditure comprises about 5% of the total world consumer expenditure, and it will increase in future. The importance of tourism was formally acknowledged when the 1st United Nations General Assembly designated 1967 as the International Tourism Year with a unanimous resolution recognizing that tourism is a basic and most desirable human activity deserving the praise and encouragement from all people and all governments.

Tourism gives an opportunity to the local people to use the amenities specially made for tourists. "Tourist is frequently a source of amenities for the resident population of the tourist destination. Tourism by its nature, tends to distribute development away from the industrial centres towards those regions in a country which have not been developed."[3]

Expenditure done for tourism development and incurred by the tourists accelerate diverse economic activities and leave their impact on many areas of economy. "Tourism has become the largest single item in the world's foreign trade, currently of the order of £ 8000 million a year . . . hence the economic value of tourism is substantial."[4] The full impact of tourism on the economy is not just through expenditure on the front line tourist trades but it embraces all those other industries outside the direct tourism sector. The traders directly involved in tourism, in order to meet the demands of the tourists, purchase from other traders and industries those goods and services e.g. foodstuff, furnishings, camping, sporting equipments and facilities, which are demanded by tourists. Hence many people get involved in fulfilling the demands of tourists. In this process developing countries are also forging ahead. A channel of financial flow has started from richer countries to the developing countries, raising the latter's export earnings and rate of economic growth.

Similar are the experiences of Garhwal. Age-old pilgrimage is intermingling with recently introduced adventure tourism. For better analysis and easy understanding economic impact is visualised in terms of employment, income, regional development and growth.

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5.2.1 Tourism and Employment

Tourism is a labour-oriented industry and it provides many times more employment than provided by any other manufacturing industry. Invested capital in adventure tourism in turn gives employment in hundreds of different ways in hotels, restaurants, boarding houses, recreation centres, porter agencies, travel agencies, gift shops, transport companies and other utility centres. In fact adventure tourism provides a wide range of employment from skilled to unskilled such as front-house personnel, chamber-maids, porters, kitchen-staff, guides and travel agents etc. It can play a crucial role in combating unemployment. This employment generation capacity of adventure tourism increases in marginal areas, which are relatively isolated and economically underdeveloped.

Adventure tourism is in search of rural or country side destination. Unemployment is acute problem of developing countries in general and backward and isolated regions in particular. It is an indisputable fact that no technology on earth can render human factor less dispensable than in tourism. It is felt that in areas where resources and market manufacturing enterprises are less, tourism is the only alternative left for increasing employment and promoting development. Tourism can be the main component of a regional policy aimed at achieving an equitable balance between major industrial areas and other non-industrial areas of the country.

In Garhwal, adventure tourism will activate many more industries resulting in creation of many job opportunities. Increasing tourist inflow not only accelerates with transport, accommodation and amenities sectors but also increases the demand for secondary industrial products like woollen clothes, wooden show pieces, food and recreational components etc. World Tourism Organisation estimates that, "tourism generates directly and indirectly 74 million jobs in the world."[5] According to Prof. Risch, "tourist industry in Switzerland provided employment to 1,40,000 persons, of which about 70,000 were employed directly by the hotel industry. This shows that tourism alone provides employment to the 50% of the total working population."[6]

In Garhwal, particularly in Chamoli and Uttarkashi pilgrimage and adventure tourism are going side by side, and giving employment to many people in hotels, restaurants, rest-houses, inns, trans-

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port, travel agencies, amenities sector, souvenir industry and in industries providing equipment, furniture, accessories used by catering establishments. Apart from these electricity, gas supplies, sanitation, water supplies, vegetables, fruits, dairy product etc also provide employment to the people. But, in general domestic tourists will, by and large, generate more favourable relative employment than foreign tourists. Tourism industry provides employment in bulk. A 200 rooms hotel costing 3 crores generally needs a staff of not less than 400. Most of the industrial enterprises costing the same amount have much less employment potentials.[7]

The number of permanent employees and officers employed in Yatra office of GMVN was 58 in the year 1986, 72 in 1988 and it went up to 95 in the year 1990, whereas the number of temporary employees varies with the tourist influx during summer. Mountaineering Division of GMVN started functioning in 1976. Today it has 8 permanent employees apart from large number of its casual employees in summers. Both the offices, Yatra and Mountaineering Division appoint employees on daily wages during the tourist season to cope with the heavy inflow of tourists and pilgrims. In Garhwal, GMVN is the foremost organisation that caters to the tourists and pilgrims with highest repute. Apart from GMVN, employment opportunities are created in other hotels, souvenir shops, rest-houses dak bungalows, travel agencies, transport system and road-side amenities etc. In Uttarkashi alone, seven travel agencies have come up within a very short period. Probably the most outstanding benefit of tourism in developing countries with backwardness and high unemployment is its employment potential. But the negative impacts like menial jobs for local people, seasonal unemployment, inflationary trends in prices and uneven economic development etc are surfacing in the regional development scenario.

5.2.2 Tourism and Income

Tourism is very important as it provides a source of income to the host country. In developing region it becomes difficult to measure the income generated from the expenditure of domestic and international tourists, but it is very clear that arrival of foreign tourists chanalises the flow of foreign exchange in the area. In the case of some countries notably Spain, Portugal, Switzerland, Austria,

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Yugoslavia, Greece, Bermuda and Bahamas the invisible earnings from tourism are of a major significance and have a very strong and positive effect on the balance of payment. Thus, tourism is a very useful means of earning the much needed foreign exchange. In fact it is an invisible export, which offsets a loss on the visible trading account and is of critical importance in the overall financial reckoning. Most developing countries from time to time have serious problems of balance of payments that forced the countries to focus on tourism. "Tourism is a very useful means of earning much needed foreign currency; indeed, it is almost without rival as a source, as such countries as Spain, Eire, Mexico and Panama have found."[8] Advanced transport technology and increased disposable income is spreading tourism from earth to sky. This tourism expansion is increasing the income of countries. It is undeniable that for certain developing countries, tourism is a factor of economic development for correcting an adverse balance of payments situation, but it is equally true that developed countries with higher income, standard of living also get advantage in their foreign exchange reserves from it.

Garhwal too is doing well in income generation from tourism. Apart from the inns enroute, today good hotels and tourist bungalows of GMVN, Forest Department and PWD rest-houses have come up and are providing good facilities. Today the tourists/pilgrims want to make their stay comfortable, so they prefer good accommodation in comparison to cheaper inns. They prefer confortable journey in deluxe coaches, cars and cabs. Therefore the transporters, hotel owners, shopkeepers are earning quite a large sum from tourists. Income of Yatra office and that of the Mountaineering Division of GMVN is increasing every year, though it is seasonal even today. Tables 4.1 to 4.3 and 5.1 explain the fact. Summer is the time when tourists/pilgrims come to Garhwal. Winter tourism is yet to find feet though Auli ski-resort got off to a good start. Seasonality is quite clear from Table 5.1.

5.2.3 Tourism and Multiplier Effect

Money spent by tourists affect the economy of a region in a profound way. The expenditure made by these tourists becomes the income of others and this process keeps on repeating till it leaks

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out. When a tourist pays his hotel bills the money goes to the hotel. Hotel owner or officials will use the money to pay various debts incurred or make outlays on behalf of the tourists—electricity, telephone, personnel and other goods and services. The recipients in turn use the money in this way that may be spent several times, spreading into different sectors of the economy. Each time this will give rise to fresh income until 'leakage' (payment for imports, foreign investment, hoarding and other diversions take money out of circulation). This unbroken series of conversion of tourist money constitutes the multiplier effect. Such leakages are low in developed countries but high in developing countries.

TABLE 5.1

Booking of tours from Jan. 1981 to Nov. 1981 by GMVN

S.No.	Month	Tours	No. of tourists	Total income
1.	January	06	351	41,155.85
2.	February	15	567	54,473.67
3.	March	03	71	29,439.01
4.	April	08	297	27,708.12
5.	May	53	1457	4,50,269.95
6.	June	54	1397	4,44,492.23
7.	July	17	609	1,12,295.50
8.	August	20	693	1,97,437.31
9.	September	44	1183	3,49,810.50
10.	October	45	1053	3,11,271.50
11.	November	8	228	19,758.20

Source: GMVN, Rajpur Road, Dehradun.

First hand expenditure of tourists accelerates many times the economic activities and income. The greater the number of hands through which such money passes, the greater the beneficial effect on the gross national product and the national accounts. In fact multiplier is an income conceptor. It can be said that multiplier may be defined as the effect of total expenditure of the tourist on the income and employment of the region and country as a whole. Tourist expenditure not only supports the tourist industry but it provides base for other industry to come up. Tourism expenditure

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multiplies economic activities and income many times before it diffuses or leaks out.

Estimation of Multiplier

The "multiplier effect" of the expenditure made by tourists varies from economy to economy. Let the sub-division of tourist expenditure and its estimate be as follows:

Division	Estimate
Accommodation (including camping)	x %
Food (including high altitude food)	y %
Transport (including carry animals and porterage)	z %
Shopping	s %
Recreation	p %
Others	q %

The money paid for accommodation will be divided towards wages and salaries, administrative expenses, commission to travel agents, hiring of tentage for camping, interest on investments, repair and maintenance, return to investors, depreciation and insurance etc. The beneficiaries will spend some of this profit or earning on local product and services. This trend will continue till the money leaks out of the economy. The money spent on other divisions will follow the same process. It has been estimated that the money after fourth or fifth transactions does not move again to change the hands, specially in developing countries.

The estimate turnover (ET) for accommodation (assuming 5 transactions)

$$ET_{ac} = \frac{x + x + a_1x + a_za_1x + a_sa_za_1x}{x} \qquad (1)$$

Similarly for food the estimate turn over

$$ET_f = \frac{y + y + b_1x + b_zb_1y + b_sb_zb_1y}{y} \qquad (2)$$

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For transport the estimate turn over

$$ET_t = \frac{z + z + c_1 z + c_z c_1 x + c_s c_z c_1 z}{z} \quad (3)$$

For shopping

$$ET_s = \frac{s + s + d_1 s + d_z d_1 s + d_s d_z d_1 s}{s} \quad (4)$$

For recreation

$$ET_r = \frac{p + p + e_1 p + e_z e_1 p + e_s e_z e_1 p}{p} \quad (5)$$

For others

$$ET_o = \frac{q + q + k_1 q + k_z k_1 q + k_s k_z k_1 q}{q} \quad (6)$$

Where a's, b's . . . . k's are leakage factor in each transaction.

All a's, b's, ... k's are less than one.

Money spent by tourists = x + y + z + s + p + q = A

Money generated after 5 transactions = sum of numerators of

equation 1 to 6 = B
change in consumption = B A
change in income = BO = B

$$\text{Multiplier effect (K)} = \frac{1}{1 - \frac{(B + A)}{B}}$$

Estimating variables x, y, ... q and coefficients a's, b's, ... k's the multiplying factor can be computed. The expenditure estimate pattern for different tourists will be different. The value of multiplier will also depend upon the number of transactions.

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In the areas like Garhwal where clear cut data about the expenditure of tourist and income from tourism are neither very clear nor available, it becomes difficult to find out the value of tourism multiplier.

5.2.4 Tourism and Economic Development

Tourism like any other industry generates diverse activities in various fields and modifies the area in which it operates. The raw materials of the industry are the natural objects, old townships, monuments and temples, the non-renewable resources. Around such things, if infrastructure, shopping centres, recreation centres and public utilities are provided a particular area can become a high priority destination of tourists. It is certain that this will be utilised by the local people also, at least partly if not fully and will be a plus point for the development of the region. Tourist expenditure in marginal and isolated areas is of great and special significance. In fact, this will be the best solution to the problem of unemployment and underdeveloped characters of the economy. The world body of travel and tourism (United Nations Conference of International Travel and Tourism, Rome 1963) experienced the fact way back in the decade of sixties that tourism is not only important as a source of foreign exchange earner, but also as a factor in the location of industry and in the development of less developed regions. Even in some cases the development of tourism may be the only means of promoting the economic advancement of less developed areas, lacking in other resources. Underdeveloped areas with high scenic value are the high potential tourism areas. These areas, if developed for tourism, can bring a lot of prosperity to the local people and area.

It is more accurate to call tourism as a group of industries rather than an industry. The direct impact of tourism is clearly visible on hotels, restaurants, transport, travel agents and tour operators etc. In fact tourism accelerates most of the commodity and service sector of the economy. But there are few others who get influenced indirectly by tourist arrivals and tourism development. They are the agriculturists, builders, horticulturists, souvenir manufacturers, public utility owners etc.

In Garhwal, adventure tourism and pilgrimage are not only

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providing employment in primary sector directly, but also providing employment and development in secondary and tertiary sector. The process of revival started in many dying industries of yester years like wood carving, woollen cloth manufacturing and handicraft in the region due to pilgrims/tourists. Road network is improving, fleets of buses and cabs are increasing, travel agencies are mushrooming and horticulture is becoming profitable. According to Mr. Chib, "one of the less known and therefore less recognised benefits of tourism is that it helps to redress regional imbalances."[9]

In Garhwal, the hardy and stout local people were not able to make much out of their physical strength due to lack of opportunities of work, resulting in manpower drainage to the plains, mostly serving in forces, but the recently introduced mountain tourism activities have started providing them opportunities to work in mountain tourism as guides, travel agents, tour operators, porters, hoteliers seasonally and sparing themselves much time for use in agriculture.

Due to the mountain tourism activities good accommodation is coming up, amenities are improving, good markets are developing at Joshimath, Uttarkashi, Rishikesh and Srinagar. Good schools, medical facilities, road-side amenities are coming up. This all is giving more opportunities of work to the local people and better standard of living is the natural outcome. Pilgrimage and mountain tourism activities are giving momentum to the stagnant economy of border districts of Garhwal. Time is not far away when properly planned adventure tourism activities will accelerate multi-dimensional economic activities in Garhwal, blocking the manpower exodus to the plains. The Swiss are among the most prosperous people in Europe. They have achieved their high standard of living partly because of their mountains, but mostly they have been able to win their prosperity largely because they have learned special skills and abilities which people who live in flatter reaches and more fertile lands do not need.[10] Such skills are necessary for the development of a region. There was a time when Alps were becoming depopulated because of its mountainous structure, but gradually this difficult terrain with the help of tourism rescued the region from economic disaster and depopulation. It seems that border districts of Uttarkashi and Chamoli (zero industry regions) are going to be res-

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cued by mountain tourism. Best thing about adventure tourism is that it disperses the activities to non-industrial, undeveloped and barren land mass.

5.3 Socio-Cultural Impact

Tourism is a passport of peace. The first appearance of tourism in the world had a socio-cultural motivation and it stood as a unique vehicle for cultural exchange, which is necessary for a deeper understanding among the peoples of the world. It must not be regarded only as a business in the world, but as a means by which people can get to know and understand each other and maintain peace. Apart from goodwill and friendship, tourism gives a chance for socio-cultural exchange and scientific, technological interaction. This impact becomes more prominent and clear in the case of mountain tourism. Because, mountains have a knack of bringing men together.[11]

Cultural and social exchanges take place with visiting tourists. Tourism not only effects changes in the host country but in the guests too. Travel has always enabled man to broaden his mental horizons. When people travel to distant lands they gain an insight into the customs, traditions and ways of life of other people and are thus able to perceive the unity of the human society. A cultural exchange of habits, behaviour and ways of life among hosts and guests takes place in a smooth way. There is hardly any other activity which presents so wide a scope for the promotion of human understanding, so smoothly and so successfully as tourism. It develops a link of friendliness among individuals and societies. Peter has rightly said that the international tourism contributes maximum in creating poeple's interest in the world affairs and friendly understanding for foreigners, foreign behaviour and tastes.[12]

Tourism brings the socio-cultural heritage into the economic circuit by justifying the investments. It is an important medium of social and cultural development as a means of social and cultural education for the hosts and the guests. Development of tourism changes the pattern of social amenities too. Drinking water, transport, electricity etc follow pace with increasing tourists, which ultimately is used by the local people also. The tackling up of certain

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social problems, opening of schools and dispensaries and revival of old customs and style along the trek enroute to Everest in Solu-Khumbu district of Nepal is yet another example of humanising tourism and making it more acceptable and trauma-free for local people. The World Tourism Conference which was held at Manila, Philippines in October 1980 stated that international tourism can contribute to the establishment of a new international economic order that will help in socio-economic development and progress. This can be said that tourism is perhaps the most effective means of promoting international understanding and goodwill.

Apart from positive impacts of tourism, it certainly creates certain undesirable inroads into the socio-cultural life of the host country. The drug menace spread by European hippies in developing countries is one of the damages done by tourism. Theft, robbery, criminal acts and growing selfish materialism are some of the evil impacts of tourism on the simple rural people of developing countries. It is said that some times the hosts are confronted with comparatively wealthy, culturally different visitors. This results in changed cultural values and decay of native language and customs. In case of certain destinations, initially cultural traditions and life style attract the tourists. If these things get polluted with the inflow of the tourists, there will be no tourism in future. Therefore, it is essential to maintain regional identities along with modern facilities and welcome smile for the tourists. In an article in *New York Times*, Dr. Frances Collington tried to prove a correlation between the growth of tourism and increase in divorce in Hawaii.[13] Tourism experts did not hesitate to equate mass tourism with post-barbarian invasions.

But to compare the negative and positive impacts of tourism in study area, one easily comes to the conclusion that the positive impacts of tourism on the socio-cultural life of hosts are greater than the negative ones. "The frequent charge that tourism contributes to a degeneration in this field appears, however, to be an exaggeration. Arts, crafts and local culture have been revitalized as a direct result of tourism. Transformation of traditional forms often accompanies the development but does not necessarily lead to degeneration."[14]

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5.4 Environmental Impact

From time immemorial civilisations were born and nurtured in wilderness. The Vedic and Puranic literature underlines the importance of wilderness for balanced development of man and civilisation. This was the time when people were very close to nature. Great love, affection and respect were the hallmarks of the people. Each and every object of nature was worshipped, respected and conserved. There is a beautiful shaloka (couplet) in Atharva Veda which when translated means, "whatever I take from Earth may that have quick growth again, purifier, may we not injure the vitals or thou heart." This was pronounced more than 5000 years ago. Therefore, every object of nature was reverentially protected. Today's closeness of man with nature is not because of spontaneous love and respect, but due to tiredness caused by the sickening life of cities. Today, large number of city dwellers are trying to get mental and physical solace from the isolated pockets of fragile natural environment. The ills of industrialisation are over-pressurising the demand for nature.

This is resulting in more competition to grab the wilderness by different groups and users.[15] Developmental activities of recent past have disturbed the balance between man and nature.

Tourism development in mountain and remote areas also accelerated ecological problems, like garbage trails, deforestation, disturbed flora and fauna life systems, over-crowding, congestion, landslides and climatic changes etc. Garhwal Himalaya particularly the upper regions like Chirbasa, Bhojbasa and Nanda Devi sanctuary are facing utter deforestation, poaching and landslides. Indiscriminate wood cutting for fuel is creating landslides and soil erosion.

This is one side of the coin, the other side says that tourism advocates conservation desperately. Without nature there will be no tourism, therefore tourism demands nature conservation. Man and nature be viewed together. Therefore, awareness about co-existence of man and nature was born. It is said that tourism interest complement conservation and recreation in many ways. Tourism elements—transportation, guided tours, literature etc stimulate interest in landscape and understandings of the environment, an

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important component of conservation. Much of the conservation ideology and practice fosters tourism and recreation. It reveals concern for aesthetics and underscores a direct connection between recreation and tourism, especially in supporting, protecting and making accessible both vast and intimate areas of outstanding scenic beauty.

The philosophy that all human conduct affects nature must be carefully judged as it has gained considerable ground in the last two decades. Ultimately, the General Assembly of United Nations on October 29th, 1982 adopted and declared World Charter for Nature. This was based on Human Rights Declaration, Stockholm Declaration (1972) and World Conservation Strategy (1980). World Charter for Nature is really a collective call to human kind in favour of nature conservation. This was the culmination of seven-year long effort, starting from the opening session of the 12th General Assembly of the International Union for Conservation of Nature and Nature Resources (IUCN) at Kunshasa (Zaire) in September 1975. Mrs. Indira Gandhi, while launching the world conservation strategy in India in March 1980, said, "the interest in conservation is not a sentimental one but the rediscovery of a truth well known to our ancient sages. The Indian tradition teaches us that all forms of life—human, animal and plant—are so closely inter-linked that disturbance in one gives rise to imbalance in the other . . . Nature is beautifully balanced. Each little thing has its own place, its duty and utility. Any disturbance creates a chain reaction. Which may not be visible for some time. Taking a fragmentary view of life has created global and national problems."

The slightest disturbance in the ecology of Himalaya is disastrously repercussive, according to most of the Himalayan ecologists. In ecological terms the Himalaya is the youngest and most fragile mountain systems of the earth. Seemingly fixed and eternal, it is changing rapidly geologically and ecologically. Eighteenth century never felt the impact of man on nature adversely, but the idea of conflict between man and his environment grew in late 19th century and 20th century, which never bothered the 18th century man at all.[16] Developing countries realised the presence of the ghost of growing commercial attitude towards nature very late. Most of the developing countries are facing ecological crises due to

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their haphazard development programmes and not due to the over-use of resource potentials.

In Garhwal Himalaya growth of pilgrimage and adventure tourism has created some disturbances in the ecosystem of the region. Mainly cutting of wood for fuel and timber, blasting of mountains for the construction of roads, and concrete buildings in serene locations are creating ecological havoc which results in floods, droughts, cloud-bursts, landslides and change of climate etc. If this process of development and change goes on unchecked, ecological catastrophe in near future will be unavoidable in Garhwal and the plains will also not remain unaffected.

Three decades ago the local economy was quite self-sufficient due to the limited requirements of highlanders. They found their local resources limitless, but the material advancement in low land plains (which lured the highlanders) and the absence of employment alternatives other than agriculture in development plans resulted in the stream of ecological refugees of Garhwal with ecological capital flight. "It is a brain-drain which is as bad as the drain of ecological capital. In this situation past concepts of planning are futile."[17] Forests were commercially cut to fulfill the needs and greed of few contractors. In this process people started migrating towards plains. Nearly 150 years ago, similar conditions prevailed in Switzerland, Bavaria and Austria. In the early phase of industrialisation these countries also lost their forests; coal came as the alternative energy source, later hydel energy came to their rescue and today they are paradise for tourists. "In this subsequent century and half, three factors have mainly accounted for the present state of conservation and development. The first was land use planning . . . . The second factor in Europe was the development of hydro-electric power as a major alternative source of local energy for development, preventing the destruction of forest cover. The third was the development of planned and dispersed tourism. Between these three, there seems to be a happy blend of conservation and development."[18]

Uttarkashi and Chamoli districts and their Char Dhams Badri-Kedar, Gangotri-Yamunotri were open for Hindu pilgrims from time immemorial, but these Dhams and other areas (apart from inner-line area) were thrown open for the foreign tourists in 1975.

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Mountaineers and trekkers of our country and abroad started coming to Garhwal for adventure. The crowd of pilgrims and adventure lovers is increasing year by year, but the amenities are not increasing in the same proportion. This mismanagement is leading towards ecological crises in Garhwal. Lack of infrastructure forces the pilgrims and tourists to apply pressure upon the natural resource base. Trampling by haphazard camping erodes natural ground cover, exposing the surface to erosion from rains. Horses and ponies also disturb the trek route with their hooves and make it prone to soil erosion. Cutting of wood for fuel is also converting the forests into pock-marked barren land.

In Garhwal, if the introduction of tourism is spoiling nature and giving negative environmental results, certainly this is because of faulty planning, policies and management rather than over-use. Land, water, air, forest, flora and fauna everything in the nature has the capacity to accommodate certain number of human beings. It is time to reframe our policy so that both nature and tourism could co-exist otherwise the imbalance could become irreversible. This is happening in all the developing countries. In developed countries it is absolutely the other way "in some cases, because of increased flow of tourist to particular places plant and animal life have increased in volume in order to maintain better balance between the flora-fauna and visitors, resulting in improvement in many game-forest management programmes. Increased tourism has provided the motivation and economic support for many, of these programmes."[19] Unfortunately, it is not being pursued in developing countries, specially in Garhwal there is very little management of such resources, though the region is rich in natural resources.

All the Char Dhams and prominent treks are having environmental problems due to indiscriminate forest cutting, garbage dump and untreated sewage etc. Among the most frequently visited and adversely affected areas are Lokpal-Hemkund, Valley of Flowers, Badrinath, Gangotri-Gaumukh and Nanda Devi sanctuary.

For Hemkund-Lokpal and Valley of Flowers trek, Govind Ghat is the road-head. From here a trek to Ghangaria is approximately 5 to 6 hours away. Mostly the Sikhs and few nature lovers go there. During tourist season few tea-shops come up on the way. These are always constructed with forest timber and for fuel forest is merci-

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lessly cut. Government opened the area for tourists and pilgrims without giving a thought to the basic amenities essential for human beings. Pilgrims, trekkers and pack animals (mule and pony) walk on the same track resulting in mule dung, mud, filth and rubbish on the footpath which is stamped by the walker knowingly or unknowingly. All the rubbish and waste water of tea shops also come on to the track or backyard of shops, converting the area as junkyard. Big boards and name plates tacked on the tree trunks by different groups of people are converting the natural landscape into commercial advertising hoarding. But the worst thing is the haphazardly coming up settlement of Ghangaria. This is spoiling the aesthetics of the region on 0.75 hectares of land. For five-six months at least 110 to 120 people (tea shop owners and their servants) stay there to entertain the tourists and the pilgrims. Total accommodation capacity of Gurudwara is approximately 2000 people, whereas GMVN lodge has got 50 bed accommodation. A population of 500 mule drivers and porters remain there every day. It is expected that the accommodation will be expanded for 3000 people or more within a year or two.

The immediate impact is on the 2.2 hectares of land around the accommodation and tea shops. Encroachment of forest land is unavoidable in future. Mule dung and human excreta scattered in the forest opposite to tourist lodge makes it a nauseating experience. Local tea shops and Gurudwara require minimum 400 kgs of firewood per day, which is purchased from U.P. Forest Corporation and transported from Govind Ghat, but the chopped heads of the trees are telling the untold story of inhuman mauling of nature in the area. Sewage disposal is going to create serious problem in near future. The sewage pits of Gurudwara and Tourist Lodge are in critical shape. Bridle path is all soaked with urine and filthy water.

The problems of deforestation, garbage, filth and other untreated waste all around is not due to the saturation of carrying capacity of the region, but due to haphazard planning and programmes. Young has rightly said, "these evil consequences are not inherent in the development of tourism; they just happen when tourism is developed in a thoughtless and casual way."[20]

Though the polygonum weed in the Valley of Flowers is very dense, but even then the beautiful Alpine flowers are quite promi-

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nent. Candy-wrappers and other litter, some times detract from the freshness of the wilderness. Night camping in park area is banned for the conservation of the flora and fauna of the park. Though park authorities have placed litter bins in three different places, but the people are not accustomed to using them. Eco-consciousness has yet to be developed among people. The best thing is to introduce teaching natural ecology and cultural ecology in school education, otherwise the scars of human interference on nature will be incurable.

Nanda Devi national park also faces similar problems of deforestation, litter and disturbed animal life and was closed for tourists in 1982. This was done with a view to protecting the natural environment of the park region. Simply declaring an area as a prohibited one can not solve the problem. In fact such areas need action-oriented programmes like afforestation, demarcation of camp areas, strict restrictions on leaving refuse, waste and digging of hearths etc, rather than closing the area for nature enthusiasts. "Tourism need not be shut down, if the many segments of tourism development perform their individual roles in better collaboration and with great sensitivity to the negative economic, social and environmental consequences."[21]

Gangotri township is undergoing the similar plight of indiscriminate forest cutting for fuel and timber, garbage heaps and refuse, untreated refuse and filth of drains into river Bhagirathi, night soil on the banks of the river and landslides all along the track of Gaumukh and around Suryakund are some of the consequences which are distracting the attention of every passerby. At Gangotri average fire wood consumption is 20 quintals per day (every one collects the fire wood from the forests though government fire wood depot is there to provide the fire wood on payment). Haphazard building construction is killing the aesthetic value of the region.

Construction of Bhaironghati-Lanka bridge in 1985 made the journey to Gangotri comfortable resulting in increasing number of tourists and pilgrims. This increasing number of tourist/pilgrim is disturbing the equilibrium of demand and supply of services and goods.

Track from Gangotri to Gaumukh is passing through serious ecological problems of dilapidated forest, landslides, and garbage

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trails. Unauthorised possession of land for the construction of huts, ashrams and tea shops is most noticeable. Chirbasa, once famous for its blue pine forest has been deprived of its glory. Birches of Bhojbasa are all finished and the juniper bushes have disappeared from nearby areas, and now the attack is on far distant juniper bushes and birch trees.

The township of Badrinath and its fuel and energy crises have converted the surroundings into barren mountains. Kedarnath is going to meet the same fate, if proper fuel and energy arrangements are not made. UNESCO sponsored conference in Munich in December 1975 is still relevant today and it needs to be recalled that man has been the maker of desert in past ages, even with his barren hands, and often in the name of progress. Now that he is multiplying fast and has more powerful technology, his capacity to endanger and balance between man and nature (only one earth) has enhanced many times. This technology and thrust for development is more dangerous when the steps are taken in haste.

5.5 Impact on Demography and Human Settlement

Demographic structure and human settlement are always affected by the economic development of the area. Sometimes economic development works as a catalytic agent for positive demographic changes and sometime just reverses the process. In fact the quality and structure of population changes according to the regional development. Initially the efforts of the people change the economy and society and later on the process of progress changes quantity and qualities of the population. In Namche Bazar (Everest region, Nepal) there was a noticeable change in the quantity and quality of population. In 1970 there were 11.7 per cent Nepali residents in Namcha Bazar and it went up to 20.4 per cent in 1984.[22] It was not only due to higher fertility rate but migration also.

Tourism development is changing the demographic structure and human settlement in Garhwal Himalaya too. All the Char Dhams and adventure tourism destinations are seasonally populated. During summer months the abode of Gods welcomes the pilgrims and the recreationists. In olden times the feeling to serve the

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visitors among the local people was so desperate that to earn from them was a secondary objective. Though people were earning their livelihood from pilgrimage, but to serve them and thus earn religious satisfaction was the prime objective.

However, modernisation has brought in its train many behavioural changes. Modern commercialisation is making the local people more conscious about money making. Now the pandas, shopkeepers, pony-owners and porters, every one wants to earn fast money. Indirectly, even cheating the visitors is not treated as sin. So the general feeling of serving the religious trekkers is substituted by profit maximisation at any cost. These seasonal pilgrim and tourist centres are demographically changing rapidly. According to 1971 Census the population of Gangotri was 9 with no female, but this has multiplied manyfold within ten years and became 123 in 1981 with 6 females.[23] It is due to migration and not due to higher fertility rate.

This marked change is not prominent quantitatively at many places, but qualitative changes, mainly behavioural (business mindedness, cheating and laziness etc) are also common among the local people. Local people feel that they have to earn for the whole year within six months. Thus dishonest means of earning are also resorted to.

All the pilgrim centres, trekking and mountain climbing destinations are facing the same problems. But the best thing out of this tourism development is that it has partially checked the manpower migration towards plains from Garhwal. Especially adventure tourism is very encouraging in economic development of the region. Due to this Himalayan tourism development the local people have started earning their livelihood in Garhwal itself. This has generated a sort of self-confidence among local people, who were otherwise ready to migrate towards plains. College-going boys are getting employment in adventure tourism activities and gaining self-confidence.

Tourism development makes deeper impressions on settlement pattern too. The spate of buildings are the result of tourism development all around the world in general and Spain, England, Denmark, Sweden, France and the USA in particular. This change took place in the seventies and eighties of this century. Rapid growth of

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second homes in rural areas of developed countries indicates change in settlement pattern due to tourism development. Rapidly coming up hotels and tourist houses in Garhwal are changing the settlement pattern of the region. The sites, situational aspects, lay-out and overall form is inevitably different from the indigenous style. At places upcoming settlements do not even suit the local pattern and natural surroundings. But this is very correct that the influx of tourist increases and changes the settlement pattern of the host country.

The sorry plight of the settlement pattern is that it is unplanned, haphazard, unhygienic and unscientific. This is not the story of Char Dhams only, but all the road-side townships are facing the same problems.

5.6 Conclusion

There are certain positive and negative impacts of mountaineering and trekking on economy, socio-cultural life and ecology of the region. These effects for the study region are summarised here.

Positive Economic Effects

* The income of the local people is continuously increasing.
* The Government is earning hard currency and its balance of payment is improving.
* It is creating jobs for hoteliers, travel agents, guides, porters and HAPs.
* Some of the snow-covered peaks, barren land-mass and stretches of water bodies are being utilised for economic gains.
* The economic activities of entire region are being diversified.
* Better multiplier is giving momentum to the economy.
* The existing infrastructure is improving and new infrastructure is coming up.
* Local art, craft, souvenir, handicraft and other small and cottage industries are developing.
* Government is getting additional revenue through taxes.
* It is improving the standard of living of the people.

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* It is checking the drainage of manpower towards plains.
* It is giving opportunities to local people to become entrepreneurs by penetrating into travel and tourism business.
* It is mobilising the funds for regional development.

Negative Economic Effects

* Excess of demand over supply in market is often creating inflationary trends in prices.
* Imports of camping kit, climbing kit, clothing etc is causing some leakage.
* The local people are getting only menial jobs like porters, cooks, HAP, waiters etc.
* The tourism of the region is presently confined to summer months, therefore the employment is seasonal.
* The over-use of scarce resources like wood is causing concern.
* Uneven economic growth is taking place in the region like in Gangotri area.
* Adventure tourism is leading towards more dependency on tourism and neglect of agriculture.
* Tourists are getting more privileged treatment.

Positive Socio-Cultural Effects

* Cultural exchange among the host and tourist is taking place. Specially most traditional and remote border area people are getting this cultural exchange due to mountaineering and trekking.
* Friendly bonds amongst the people of different regions and different countries are developing.
* Awareness of education is taking place amongst the local people.
* The age-old traditions, culture, moral values, fairs, festivals and folk tradition etc are being revived.
* Urbanisation is taking momentum in the region.
* Sense for the evaluation of art and artifacts is developing in the local people.
* Mixed expeditions (from different countries) lead towards the exchange of techniques and skills of climbing amongst

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the mountaineers and trekkers.

* An exchange of food in mixed expeditions has developed the tendency of fast food, resulting in extra time for adventure tourism activity.
* Tourist communication systems and other modern facilities are also being used by the local people.
* Shy women of traditional Garhwali society are coming out as expert mountain guides like the members of Seven Sisters Club of Uttarkashi.

Negative Socio-Cultural Effects

* Westernisation and selfish tendencies are visualizing in local youths.
* Culture of the region is slowly losing its beauty and traditionality.
* It is leading towards the decay of religious practices and sentiments.
* The valuable antiques are being smuggled out.
* Crimes like gambling, theft and drug addiction are increasing.
* Begger menace is developing.
* Concentration of tourists in particular spots is resulting in scarcity of facilities and chaos in the society.
* It is changing the life style of local people and the native architecture of the region. Concrete brick houses are substituting the beautiful wooden houses.
* Inferiority complex amongst the local people is developing.

Positive Ecological Effects

* Mountain tourism is developing eco-consciousness among local people.
* It is giving an opportunity to study one of the most inhospitable but unique ecological and natural surroundings.
* Mountain tourism and conservational measures are checking the drainage of ecological wealth.
* The concept of hygiene and sanitation is developing amongst the local people.
* The importance of scenic landscape, flora, fauna, barren

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land-mass and other neglected natural resources of Himalaya is being realised.

* General awareness about the pollution (air, water, noise, garbage and trash) is being developed amongst the local people and the government.
* Accessibility of mountaineers and trekkers to remote and difficult areas makes the poacher scare from poaching.

Negative Ecological Effects

* Destruction of forest for fuel and energy is taking place in the region.
* Misuse and abuse of natural resources by local people, trekkers, pilgrims, mountaineers and carry animals is leading towards degradation of the landscape.
* Destruction of Alpine flora from trampling, haphazard camping and hobby collection is endangering some rare species.
* Garbage trails and dirty camp sites are developing like on Gangotri-Gaumukh trek route and Bhojbasa camp site.
* Habitat disturbance for wild fauna is taking place.
* Pollution of water due to the submergence of drains into rivers is happening.
* Unplanned and unscientific road construction is leading towards landslides and floods.
* The disturbance of top soil of trek route by the hooves of ponies and mules is causing soil erosion.

It will not be hyperbolic to say that the benefits of adventure tourism are greater than the harmful losses. Directly it contributes to the balance of payment as an earner of hard currency. It diverts development towards non-industrial backward regions, creates employment opportunities in seasonal market. This number will grow with the popularity of winter tourism in the region. Socio-cultural interaction is taking place with certain positive and negative impacts. Ecological gains and losses are also noticeable.

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6

Problems Associated with Mountaineering and Trekking

6.1 Introduction

"The population of hill areas is thin and scattered, people are too much dependent on agriculture, and agricultural land is limited, the real cultivable area is 13 percent of the total reported area, number of small and marginal farmers is more than 87 percent. Agricultural activities are difficult and non-profitable. Maximum labour is involved in agriculture. Among the total population of the area (1981 Census) 17.07 lakhs are labourers (35.5 percent) and among total labour 70 percent is involved in agricultural activities. Basic facilities of loan, marketing and industrial atmosphere are lacking. Due to landslides and soil erosion, apart from ecological and environmental disequilibrium, there are problems of higher cost of maintaining the assets."[1] These are the problems and constraints which the hill people of Uttar Pradesh have been experiencing for a very long time. Uttarkashi and Chamoli two districts of U.P. are economically worst. Both districts have been declared as 'no industry districts' by U.P. Government.

These conditions are most discouraging for development. Minimum facilities are essentially required for the development of any industry or activity in any region. The Govt. of U.P. felt tourism as an alternative for economic development and ecological stability. But for the establishment of any industry it is necessary to plan for it and foresee the problems on its way. Later on, problems arising out of developmental process should not be ignored, but carefully

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tackled. Few problems exist when an industry gets started, but gradually the problems germinate with the development of the industry. These problems are the after-effects of that particular type of developmental activity. Examination of the obstacles on the way to the development of tourist industry, as well as the problems sprouting out due to tourist industry's development must be made.

The old theory, "more the toil, higher the religious attainment and salvation", of pilgrimage no longer holds good in general. People demand comforts during their pilgrimage. Today even the devout pilgrims also evince interest in basic facilities, not to speak of the tourists. It can be said that lack of infrastructural facilities and government hesitation to accord the required priority that tourism deserves, are the most serious problems for the development of tourist industry. Michael Peter's opinion is worth quoting, "Tourism, which only a few years ago was the leisurely pastime of the idle rich, has grown at such a furious rate that many (or, indeed, most) host countries are hopelessly ill-equipped to receive the vast number of tourists wishing to visit their country."[2] In spite of natural attractions poor quality of desired facilities discourages not only tourism but any other developmental activity.

Various problems associated with adventure tourism development are briefly discussed.

6.2 Poor Transport and Road-Side Amenities

Roads comprise the only transport system for men and material in Garhwal. Hill driving and difficult roads discourage the tourists who are short of time. Here road transport is not very congenial to the requirements of well-off tourists. Even today the condition of roads is in a very critical state. Landslides are common. Slight rain can hang the tourist on the way for hours without water, food or toilets etc. Sights of crawling bulldozers, sliding boulders and soil make the tourist tired and frightened. Roads are narrow and risky, therefore night driving is prohibited in Garhwal. This again leads to the loss of precious time. These difficulties of journey upset the tourists very much. Journey in Garhwal is time consuming, tiring and sickening. This is not only for the tourists but for the hardy local people also.

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Booking of tickets is most difficult today. Apart from GMVN and other chartered buses, all buses of TGMO, GMO and roadways are over-crowded during summers. This makes the journey more difficult. Sometimes passengers are twice the number of the seats, sights of passengers on the roof tops of the buses are not uncommon. It can be said that the road transport is in bad shape even today. The governmental agencies always claim that in hill areas of U.P. during different plans, road development has been given maximum priority.[3] Bad roads and over-crowded buses discourage the tourists from visiting the region directly and indirectly. A tourist is directly obstructed if roads and buses are bad, but obstruction in the supply of goods (required by the tourist) also discourages the tourist. This tells the sad tale of bad roads and risky driving in Garhwal. Apart from general transport system the facilities for transport in adventure tourism too are not good and sometimes they are non-existent. Some treks are publicised but not maintained and marked properly. It is easy for one to get lost in the trek. This hampers the solo trekking. Such treks are Kedartal, Kushkalyani, Vasukital, Gandhisarover etc. In some tracks distances are not marked, and wherever marked it is always in Hindi. This becomes a problem for foreigners to read and understand.

Pony trekking facilities are existing only in few tracks like Yamunotri, Gaumukh, Kedarnath, Valley of Flowers and Hemkund-Lokpal. Lack of pony trekking facilities in other areas is also problem for those who want to come close to the nature but don't want to exert. There are no ropeways in entire region, therefore a class of tourist is not attracted here. Although Vayudoot service has been started for aerial viewing, however air services for the region are yet to be introduced. Due to this a section of tourists is not being attracted.

Road-side amenities, most essential for tourism development, are in worst shape. Toilets, drinking water, restaurants, eating houses, automobile repair centres, petrol pumps, first-aid centres and hospitals are in bad shape. Eating places are mostly unhygienic. Toilets made out of hanging gunny bags present ugly sights. Spreading urine and stinking space around the toilets present a deplorable sight. Though Sulabh Sauchalaya for the hills is a good idea of Government of U.P., but the scheme is yet to be

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implemented extensively. For adventure tourist, away from the road-heads, in the name of way-side amenities except Chattis, Dharamshalas and Dak Bungalows nothing exists. Along most of the treks even the tea shops are not there. A tourist who comes with a travel agency enjoys the trek and the facilities provided by the travel agency but a tourist who comes here assuming that he will get every thing in the trek gets stuck-up without food in the belly.

6.3 Lack of Accommodation Facilities

Like good roads, accommodation too is equally important for the development of tourism. Unless a tourist/pilgrim is sure that after a whole day's tiring journey he is getting accommodation for proper rest, he will certainly not like to go ahead to higher altitudes. Though most of the religious places possess enough accommodation but adventure tourism destinations lack accommodation at many places (especially at higher altitude treks). On many occasions at Gangotri, people are seen sleeping outside under the sky. The first problem is lack of accommodation and the second is bad accommodation. Poor house-keeping, dirty rooms, dusty floors, shabby bed sheets, broken window pans, unhooked curtains, dirty toilets, scarcity of running water in the toilets, unattentive room boys and poor room services are very common in private and government accommodation. This all creates inconvenience for the tourists who are paying for every thing, from good accommodation to good service. Back home the tourists publicise negative as well as positive experiences among prospective tourists of future.

Presently insufficient and substandard adventure tourism accommodation exists in Har-ki-Doon. Ruinsaratal has good camp ground but no camping facilities, at Bhojbasa, facilities are always short of requirement and Tapovan has nothing to offer in the name of camping facilities. Lack of accommodation is the problem of Tungnath and Rudranath. Kushkalyani trek has neither tourist lodge nor dharamshala. In this trek the only accommodation available is dirty and stinky huts of the villagers and their cattle.

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6.4 Lack of Funds and Awareness

Though it is widely publicised nationally and regionally that adventure tourism, specially Himalayan tourism will be given more impetus but verbal jugglery is not going to achieve the objective. The funds to develop this industry are lacking. Good equipments for mountaineering and trekking are very expensive and not easily available in India. Therefore it becomes difficult for local unemployed poor youth to avail the facility of partial subsidised loans of Government of U.P.

Local people are not aware of region's tourism resource potential and methods to exploit them. They often curse the rugged mountainous surroundings and do not understand that the same surroundings with little awareness and development can be the source for their livelihood and comfort.

6.5 Lack of Information and Telecommunication Facilities

Even today, all the information regarding treks, trails, climbing equipment, camping kit, porters and other things can not be gathered at one point. Therefore appropriate and adequate information can not be provided to the tourists. The travel agents, accommodation personnel and others who come in contact with the tourists are not properly trained to explain the region's attractions, routes, country culture, history, geography and archaeology. Such underdeveloped structure of tourism is common in entire study area. Some times much publicised availability of equipment turns into unavailability or shortage of stock position. Though it is easy and simple for the organisers to offer excuses but it is most painful for the tourists. The facilities of telephone and telegraph is very poor in the region. Radio communication is not yet introduced in a big way. Though GMVN tourist bungalows are having wireless sets for their use, but it is looking after a very small percent of the tourists visiting Garhwal. Lack of radio communication creates great risk to life at the time of accidents on the mountains. Messenger takes days to reach to the road-head and the man in danger may die within hours. Poor telecommunication facilities discourage the flow of adventure tourist to the region. Telex and fax are nowhere in the scenario of the region.

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6.6 Bureaucratic Delays

Bureaucratic system is also one of the problems for tourism development. For the foreigner the delay and harassment begins from the airport. They are of the opinion that conditions at international airports in India are discouraging for tourism development. "Post-monsoon, an Indo-Japanese party failed to repeat the American route, originally interested in Nanda Devi east, from the north, they were so delayed by Bombay customs that they tried this instead. Every expedition (bigger or small) seems to have its tales of woe about Indian customs. As the country is supposedly trying to attract climbers and trekkers, this constant delay and harassment is hard to understand."[4] such acts of Custom Department force the country to lose foreign exchange without any logic and discourage tourist trade. Getting clearance from Ministry of Defence, Government of India, Ministry of Home, Government of U.P., to enter the inner-line area is another problem for domestic as well as foreign tourists. The Jadh Ganga valley, area beyond Mana village in Alaknanda valley and Kalindikhal trek comes under restricted area. Seeking permission becomes an expedition in itself and it discourages the flow of tourist.

6.7 Research Lag and Planning Problems

Another major lacuna observed in the field of Himalaya tourism in Garhwal, in a greater degree, is the dearth of statistics and lack of research base that makes scientific analysis next to impossible. Prior to the introduction of Himalayan tourism in the region no research has been done for identifying the sensitive seismic zones, avalanche-prone areas and economic and ecological viability of tourism. No research and planning has been done for alternative fuel, energy and garbage disposal systems.

6.8 Search and Rescue

There is no official search and rescue system in the region. Though Himalayan tourism has been introduced and expeditions are allowed for Himalayan peaks, no provisions are made to look

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after the accidents on the mountains. One who comes for mountain climbing or trekking knows that any mishap can occur in the mountain and simultaneously knows that no arrangements are there for search and rescue. If NIM people go and bring the casualty down there is no provision to airlift the casualty. The lack of search and rescue discourages the tourist flow of the region.

6.9 Other Problems

There are few things very essential for smooth and comfortable living of the host and guest both. Such things are drinking water, electricity, banking facilities and medical facilities. Weak links in the chain of services and facilities adversely affect the progress of otherwise healthy sectors of the industry. Tourist/pilgrim season begins here from the month of May and simultaneously the problem of drinking water and electricity start together. This not only creates inconvenience to the guest but to the host also and due to this, tourist industry gets affected adversely. Bank branches in Garhwal are not doing foreign exchange transaction. This some times becomes troublesome for the foreign tourists. Hospitals at most of the places do not have enough facilities even for the hosts, therefore it becomes difficult to accommodate the needy tourists. Hospitals are not equipped for high-altitude sickness, etc.

These are the general problems which are inhibiting the development of Garhwal in general and tourism in particular. Apart from hosts, pilgrims and sight-seers, there are adventure tourists (about whom the tourism planners, programmers and implementors talk too much today) for whom nothing alluring has been done.

These tourists require few facilities explicitly, like special equipment, clothing, food, area maps, cooks, helpers, camp site facilities etc. But these are utterly lacking at certain places if not every where.

Clothing for high altitude trekking and mountain climbing are different from the usual ones. Tourism organisers in Garhwal even today are not able to provide qualitatively and quantitatively the clothing required by adventure tourists. Similarly food for higher altitudes is not available in the local market. This becomes an acute problem for foreigners who are not used to relish our traditional

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dishes. Food problem becomes more acute in case of trekkers, who suddenly plan for trekking in Garhwal or who come with an assumption that every thing will be available in the local market. Unavailability of food and clothing not only embarrasses the host but also spoils the trip and leisure of the tourists.

The next impediment in the way to the development of adventure tourism in Garhwal is the non-availability of area maps as both the districts are on the Indo-Tibetan International Border. Therefore the government has declared the higher reaches of both the districts as restricted areas and the general tourists cannot buy these area maps in India, though most of the foreign tourists are in possession of detailed maps of such areas. However, these maps are restricted for Indians. A lot of inconvenience is felt by all Indian and few foreign tourists without maps.

Declaring areas as restricted also hampers the tourist from touring the area. Jadh Ganga valley, with uninhabited and abandoned villages can attract the solitude-loving tourists, but the area is prohibited for the general public (local people and tourists alike). Similarly villages called Bampa, Gamsali and Niti etc are closed for tourists for the same reasons, though we know that powerful satellites are giving every detail to the people thousands of kms away from here. Such undulating meadows, virgin forests, valleys and peaks are waiting for the eyes who can enjoy their beauty.

Declaring areas of immense natural beauty as restricted areas for human beings in the name of eco-conservation is also one of the problems of tourism development in Garhwal. Nanda Devi sanctuary was declared as national park and biosphere reserve for the sake of ecological conservation. This stopped the mountaineering and trekking expeditions to this area resulting in jeopardizing the economy of Lata and Reni villages and it does not appear to be helping the conservational idea. Such closures are leading to poaching menace rather than conservation. Conservation must be a priority in the area, but it must be done in such an effective way that it does not harm tourism and local people.

6.10 Problems Due to Haphazard Tourism Development

Himalayan tourism was much publicised, but not fairly and

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judiciously worked out from the very day of its inception. For starting any industry or trade, these things are supposed to be well weighed, but the sorry state of adventure tourism in Garhwal is that planners and policy makers never bothered about all this before ecological catastrophe started showing symptoms. These problems are the outcome of unscientific and unfriendly tourism development. They are not only the result of unplanned tourism of today and yesterday, but are becoming problems for the future development of tourism in Garhwal. Mainly they are:

1. Scarcity, resulting in price rise in commodities and service sector.
2. Hike in land prices.
3. Cultural pollution and loss of old traditions.
4. Inadequate facilities (drinking water, milk, electricity and sewage system).
5. Problem of housing and higher rent.
6. Heavily crowded, narrow streets.
7. Serious parking problem.
8. Unplanned urbanisation of tourist destinations.
9. Chronic problem of weak municipal administration with inadequate budgets for providing the services.
10. Loss of regional aesthetics and ecological destruction.
11. Creation of low jobs for local residents and better jobs for outsiders.
12. Seasonal dependence etc.

Tourism being a seasonal activity affected the general demand and supply pattern of the region. Due to flood of pilgrims and tourists in summers, demand side increases but accordingly supply never gets adjusted. This results in scarcity of commodities and services and hike in prices. This is drastically felt by the local people who are economically quite backward and financially unsound. Handful of businessmen and entrepreneurs are taking all advantages of pilgrimage and tourism and the majority is getting frustrated and alienated from the mainstream of the economy. This is resulting in unbalanced economic development. Society is getting divided into two masses of poor and a handful of rich. This is happening in Uttarkashi, Gangotri, Joshimath, Badrinath and Kedar-

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nath. Being seasonal the infrastructure remains idle for six months.

To grab the land of potential tourism destinations, outside businessmen are giving high prices, resulting in soaring high land prices, inflation and utter frustration among local entrepreneurs, who are enthusiastic for work but handicapped with their poverty. In particular, problems arise and costs are increased when the different sectors of the industry do not develop harmoniously or when the motives and capabilities of the different development agents conflict. Carried to an extreme, uncontrolled growth of tourism can irrevocably destroy the very resource base on which it was built.

This haphazard tourism development is creating a conflict between the needs of tourists and the interests of the resident population. The larger the influx of tourist, greater is the risk of inconvenience and reduction in amenities and facilities to the local people. At many of the tourist destinations in Garhwal, during tourist season there is scarcity of milk, accommodation (higher rents too), electricity, vegetables and unmanageable garbage heaps, inadequate sewage, weak municipal administration, and inadequate funds, shortage of medical facilities and growing delinquency etc. These are some of the problems cropping up due to haphazard tourism development. Small and congested parking areas and concrete towering buildings are the results of tourism, which are mercilessly killing mountain aesthetics. Fuel requirements, building timber and unplanned human (tourists and hosts) intervention in remote areas is resulting in deforestation, drying of water sources, shifting of glaciers, landslides, disturbed flora-fauna, and in all it is leading towards resourcelessness in Himalayan tourism. One of the greatest problems is the fact that government, leaders, economists, planners who influence government policy are not aware as to how little they know about tourism and local circumstances.

Tourism should not involve the wanton destruction of the very basis of existence of the local population. In fact tourism should be planned in this manner so that it can help the local people in having more employment avenues, and income generation so that they (local people) could come out of age-old cobweb of poverty and superstition and work for the development of tourist industry.

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6.11 Conclusion

For the development of any industry few things are essentially required but simultaneously few things exist in the way that they become the obstacle. In Uttarkashi and Chamoli districts of Garhwal insufficient and substandard transport, accommodation, road-side amenities, lack of funds, poor telecommunication facilities and bureaucratic delays are hampering the tourism. At the same time due to poor planning and haphazard development few problems like inflation, pollution, shortage of facilities to local people, over-crowding, unplanned urbanisation, seasonal dependency and ecological disturbances are cropping up in the region.

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7
Conclusion and Recommendations

7.1 Conclusion

In the beginning of the study this was hypothesized that Himalayan tourism is the only alternative for the balanced and sustainable development of the region. After collecting information and details about the tourist attractions, infrastructure, present day tourism development and its impact, following conclusions have been made.

Uttarkashi and Chamoli districts, due to the difficult topography, deficient mineral resources and fragile ecosystem are not suitable for agriculture and heavy industries. Mining is neither economically sound nor ecologically viable. Commercial forestry is not advisable. So the only thing left with the region is Himalayan tourism and pilgrimage.

This region is very rich for religious and adventure tourism. Apart from Panch Badris, Sapt Kedars, Gangotri, Yamunotri and the confluences of holy rivers, every town, river, rivulet, mountain valley and snow-covered peak is associated with one or the other God or Goddess. Pilgrimage has got bright prospects in the region. Simultaneously the scope for adventure tourism is not narrow. Long mountain chains, snow-covered peaks, open valleys, frothy-foamy rivers, lakes, varied flora-fauna and wide pasture lands are the great attraction of the region. Apart from identified and publicised attractions, there are many things yet to be identified and publicised. Rich potentials for water-skiing, snow-skiing, hale-skiing, angling, wildlife watching, rafting, canoeing and rock

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climbing etc are existing. With proper research, planning and resource management these potentials can be converted into finest mountain tourism attractions.

Infrastructure of the region is gradually improving, though it could not reach up to the required standard. Roads are improving, extension of roads are under process. Non-existence of air and water transport and ropeways are obstructing the flow of tourist in the region. An urgent necessity of air transport and ropeways is felt, not only for the transportation of tourists but also for casualty evacuation. Accommodation at road-sides is coming up, but the house-keeping is not upto the standard. Tourists prefer GMVN bungalows and pure pilgrims prefer dharamshalas. Road-side amenities are substandard. But beyond road-heads, facilities are poor in few places and non-existent at many places. Uttarkashi and Chamoli districts are attracting maximum number of mountaineering expeditions. Therefore proper base camps are required at Tapovan and Nandanvan. The region lacks funds for adventure tourism development. Though local people are interested to explore regional adventure tourism resource potential, but lack of funds is not allowing them to materialise their plans. There is nothing in the name of entertainment and recreation. Travel agencies and porter agencies have scope to grow. For publicity Government of U.P. has made efforts but much more is required. To give boost to the tourist industry and regional economy local handicraft, small and cottage industries have to be developed. There is scope for woollen cloths, wood carving and bamboo work. There is scarcity of drinking water, electricity, banking and medical facilities etc. Absolute absence of telecommunication (specially radio, wireless, telex and fax etc) is crippling the tourist industry.

Himalayan tourism is gaining the momentum with pilgrimage. Economic activities are getting generated. Number of tourists/ pilgrims is increasing. Though there is fluctuation in tourist arrivals in different years, but coefficient of variation is less than thirty percent for Badri, Kedar, Gangotri, Yamunotri and increasing long term trend in tourist arrivals is confirmed. Increasing income of Yatra office and Mountaineering Division of GMVN is also a clear indication of growing Himalayan tourism and its positive impacts.

Travel agencies are multiplying. Their activities are increasing.

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Local people are getting jobs. But few negative aspects of this industry too are cropping up. These negative aspects are not the result of over-use of the resources but misuse and mismanagement of the resources, wrong tourism planning, lack of collective thinking and collective action. Proper thinking, planning and action would provide sustainable development of man and nature in the region. Prior to the take-off of this industry the so-called environmentalists have started creating noise of environmental disturbances and disasters. This resulted in the closure of Nanda Devi national park and the destruction of local economy which was based on adventure tourism. Simultaneously this environmentalist group is raising voice for the closure of Gangotri-Gaumukh region also. They have a misconception that ecological balance in Himalayas can be maintained only by shutting out human being. Nanda Devi, Valley of Flowers national parks and Gangotri region have reached to the saturation point of their carrying capacity. But in this study this has been concluded that carrying capacity is the function more of user's behaviour (operators and tourists) than the number. In fact in this region isolated tourism planning (tourism for the sake of tourism) has been done and this approach is creating the problems. Strict rules, regulations and their implementation can certainly check the vandalism on the mountains.

Now, it seems that in the name of eco-conservation any thing like snatching of employment, income and development will not be tolerated by the local people. They are deadly against this type of conservation. Recent action of Uttarakhand Kranti Dal can not be forgotten. The activists of this party had cut all the trees which were hindrance to the construction of roads and bridges of Uttarakhand. Conservation should be done by the people and for the people. In the higher reaches of Uttarkashi and Chamoli districts, the problem is not of exhausted carrying capacity but misuse and mismanagement of Himalayan tourism resources. Sensible Himalayan tourism planning and development can remove the evils of present day tourism and will lead the region towards sustainable development.

Based on the study of this book following recommendations are proposed.

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7.2 Recommendations

1. Coordination amongst various agencies such as Forest Department, PWD, tourism, hydel and regional administration etc is essential for speedy and healthy development of adventure tourism.
2. Regional aesthetics and environmental balance should be insured before any developmental planning takes place.
3. Participation of local people in adventure tourism development should be encouraged.
4. Proper information and data should be established at various points such as Uttarkashi, Barkot, Joshimath and Gopeshwar.
5. Efforts must be made to ensure that adventure tourism is a round the year activity.
6. To promote adventure tourism participation of NRI, private entrepreneurs and other funding agencies should be approached and encouraged.
7. Cottages and huts of villagers along the tracks should be slightly modernised to convert them into vacation houses or second homes.
8. Active and vigilant conservation acts and programmes should be identified and implemented.
9. To prevent the deforestation solar and hydel power potential should be explored, afforestation programmes and supply of LPG and kerosene oil should be encouraged.
10. Foreign exchange facility should be provided specifically at places like Dehradun, Uttarkashi and Joshimath.
11. Some of the hospitals like in Uttarkashi and Joshimath should be equipped for the treatment of high altitude sickness and diseases.
12. Modernised rescue operation cells should be established.
13. Road-side amenities such as petrol-pumps, automobile repair centres, hospitals, hotels, toilets (Sulabh Sauchalayas) should be provided/improved and trekking facilities away from road-heads should be provided.
14. To sustain multiplier effect and to prevent the leakage of

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income, inputs of adventure tourism should be made available locally.

15. Permission to mountaineering expeditions should be granted from a single window.
16. Rope ways and chair lifts should be introduced.
17. Dried up lakes like Ghona and Dharali should be restored to their past glories.
18. Hot water springs of Gaurikund, Tapovan and Yamunotri should be converted into spas.
19. Wildlife tourism should be developed.
20. Nanda Devi region should be reopened. Jadh Ganga valley, Kalindikhal, area beyond Mana and Malari should be opened for adventure tourism.
21. Local industries like wool work, medicinal herbs, honey, mushroom cultivation, fisheries and fruit preservation and processing should be properly organised and expanded.
22. Cultivation of local cash crops such as potato, amaranthus, soya-bean etc and horticulture like apple, citrus fruits, walnuts etc should be encouraged and promoted.
23. Effective measures should be taken to prevent soil erosion and landslides.
24. Adventure tourism potentials and infrastructure of the region should be publicised and promoted through electronic media.
25. Appropriate radio transmitting station should be established to give information about weather forecasting, search and rescue operations.
26. Negative economic, social and environmental effects of adventure tourism should be given special attention.
27. Flora, fauna and pasture lands should be protected and properly used for adventure tourism.
28. For the interaction of guest and host local fairs and festivals, yoga, meditation and other spiritual activities should be organised.
29. Air transport should be re-introduced from Gaucher and possibilities should be explored in Uttarkashi district (Chinyali saur).
30. The region being located in seismically sensitive zone

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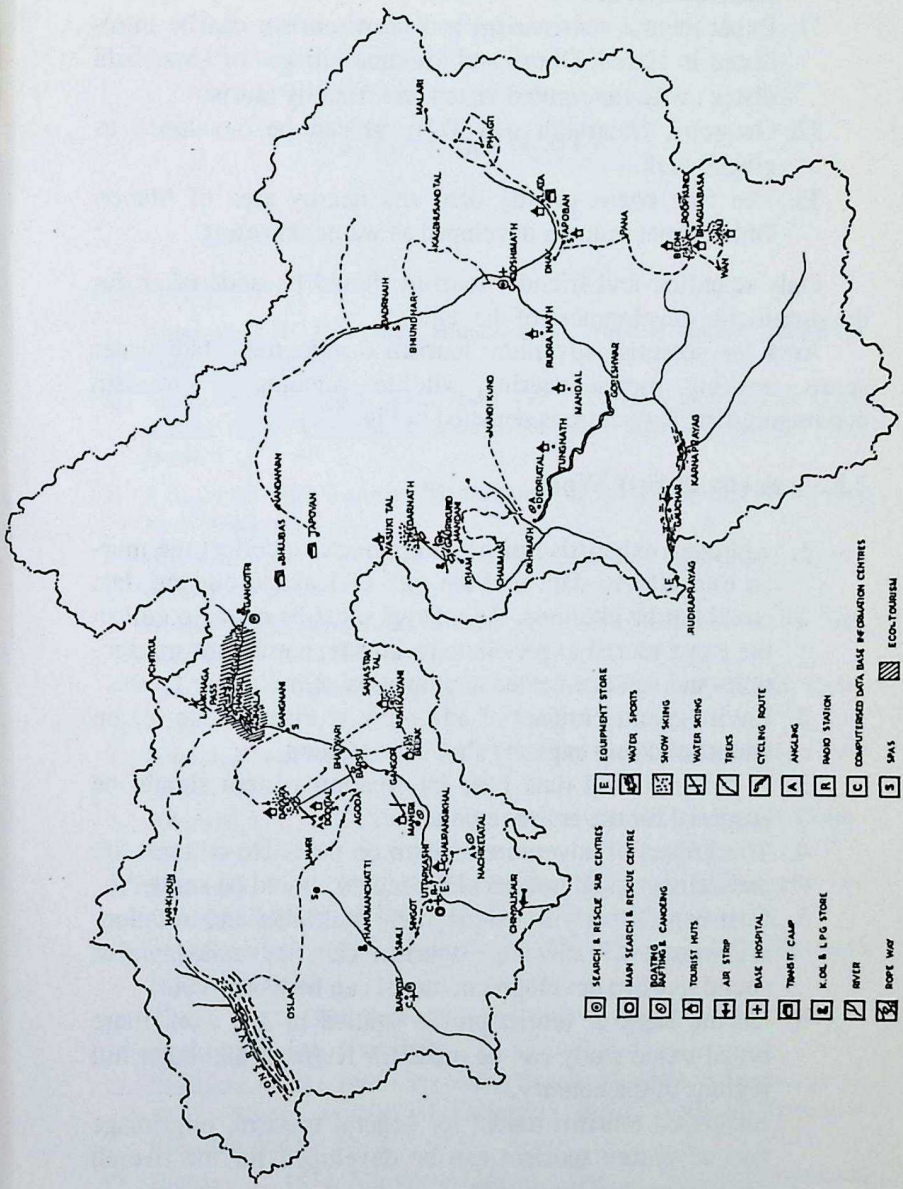
SEARCH & RESCUE SUB CENTRES
MAIN SEARCH & RESCUE CENTRE
BOATING RAFTING & CANOEING
TOURIST HUTS
AIR STRIP
BASE HOSPITAL
TRANSIT CAMP
K.OL & L.P.G STORE
RIVER
ROPE WAY
EQUIPMENT STORE
WATER SPORTS
SNOW SKIING
WATER SKING
TREKS
CYCLING ROUTE
ANGLING
RADIO STATION
COMPUTERISED DATA BASE INFORMATION CENTRES
SPAS
ECO-TOURISM
GANGOTRI
GANGNANI
JAPOVAN
BHAIRAB KHARKHAN
HARSHIL
OSLA
JHALI
BARKOT
CHAMPAWAT
CHAMPAWAT
CHAMPAWAT
BHUNDNAGAR
BHUNDNAGAR
MALARI
JYAGOT
JOSHIMATH
PANA
BIRON POOTLANG
NAGALABASA
WAN
RUDRA NATH
MANDAL
GOPESHWAR
TUNGNATH
GOPESHWAR
KANNA PRAYAG
RUDRAPRAYAG
BADRINATH
MANA
VASUKI TAL
SAHASTRA TAL
KEDARNATH
JANGLAN
JANGLAN
CHAMPAWAT
CHAMPAWAT
CHAMPAWAT
BHAIRAV
AGODA
GANGOTRI
JOSHIMATH
CHAMPAWAT
CHAMPAWAT
CHAMPAWAT

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wooden buildings should be constructed with traditional local architecture.

31. Experimental eco-tourism and farm tourism can be introduced in Harsil, Dhrali and Mukhba villages of Uttarkashi district with far-sighted vision and friendly tourism.
32. Gangotri, Gaumukh and Tapovan can be developed as glacial park.
33. The first phase gravity dam and nearby area of Maneri Bhali project can be developed as water ski resort.

Only scientific and friendly tourism should be undertaken for the sustainable development of the region.

Area for potential adventure tourism development like water sports, trekking, mountaineering, wildlife watching, eco-tourism and required infrastructure is depicted in Fig. 33.

7.3 Scope for Future Work

1. Although exhaustive efforts were made to collect the tourist expenditure data and the rate of leakage but the data could not be obtained. An attempt must be made to collect the exact tourist expenditure estimates, number of transactions and leakage for the computation of multiplier factor.
2. Environmental impact of adventure tourism on the region and its carrying capacity should be studied.
3. A computerised data base information system should be prepared for the entire region.
4. The impact of adventure tourism on the socio-cultural life and demographic pattern of the region should be studied.
5. Cost-benefit analysis, employment multiplier and inflationary impact of adventure tourism can be studied and a sound tourism development model can be worked out.
6. On the basis of tourist profile studied in this work more broad-based study can be made for Kumaon and other hill regions of the country.
7. Integrated tourism model for general tourism, pilgrimage and adventure tourism can be developed for the overall development of the region.

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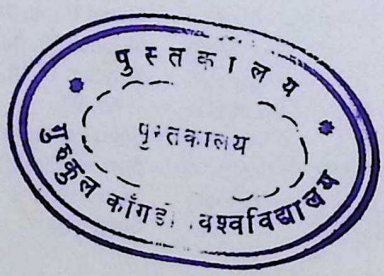

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Dr. (Miss) Harshvanti Bisht, India's leading woman mountaineer, has been actively associated with mountaineering and Himalayan Tourism research work for the past two decades. She has climbed Baby Shivling (5660 m), Kala Nag (6387 m), Thelu (6002 m), Gangotri (6672 m) and Nanda Devi (7817 m) in Garhwal Himalaya. She has participated in the Indian Everest Expedition of 1984. For her exceptional mountaineering skills and outstanding achievements, Dr. Harshvanti Bisht was awarded the Arjuna Award and Directorate of Higher Education, Government of U.P. Gold Medal. In mountaineering circles, she is widely known as Harsha.

She is a Fellow of the Royal Geographical Society, and member of several mountaineering and environment conservation societies. She has many research papers and radio talks to her credit. She has worked as Principal Investigator to a major research project, "Growth of Himalayan Tourism and Pilgrimage in Gangotri Region: An Impact on Physical Resources and Economy," supported by Ministry of Environment & Forests, Deptt. of Environment, Forests & Wildlife, Govt. of India, New Delhi.

Currently she is teaching Economics in Govt. Postgraduate College, Uttarkashi and actively working for the eco-conservation of Gangotri-Gaumukh area (source of river Ganga) in Garhwal Himalaya.

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